CDX-C4840R/C4850R

SERVICE MANUAL

AEP Model
UK Model

Photo: CDX-C4850R

Model Name Using Similar Mechanism	CDX-C570R/C580R
CD Drive Mechanism Type	MG-363T-121
Optical Pick-up Name	KSS-521A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	12 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.8% (stereo), 0.6% (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 281 kHz
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz / 450 kHz
Sensitivity	MW: 30 µV LW: 50 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W × 4 (at 4 ohms)

General

Outputs	Line outputs (2) (CDX-C4850R) Line output (1) (CDX-C4840R) Power aerial relay control lead Power amplifier control lead Telephone ATT control lead (CDX-C4850R)
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 178 × 50 × 185 mm (w/h/d)
Mounting dimension	Approx. 182 × 53 × 162 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/MW/LW COMPACT DISC PLAYER

MICROFILM

SONY®

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTE FOR REPLACEMENT OF COMPLETE MAIN BOARD

The complete MAIN board (CDX-C4850R: A-3294-583-A, CDX-C4840R: A-3294-587-A) of this set can be set to address the specification for each destination by shorting or opening one solder bridge of the MAIN board on the AEP and UK models and German models :

AEP and UK models : short
German model : open

The solder bridge below shold be opened when replacing the complete MAIN board on the German model.

– main board (side B) –

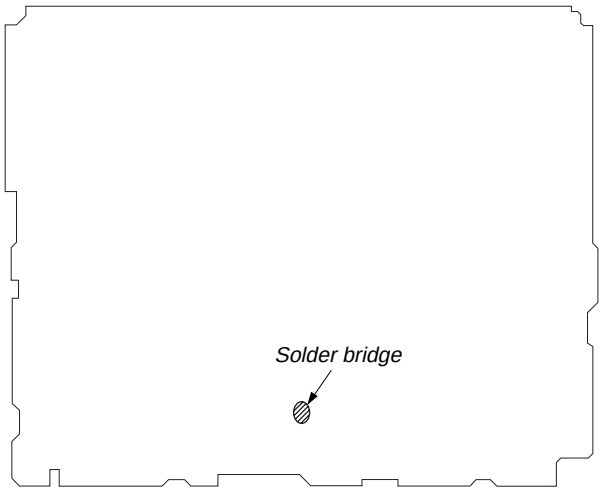


TABLE OF CONTENTS

1. GENERAL

Location of controls 4
Getting Started 4
Setting the clock 4
CD Player 4
Radio 5
RDS 5
Other Functions 7
CD/MD Unit 8
Connections 10

2. DISASSEMBLY

2-1. Cover 12
2-2. Front Panel Assy 12
2-3. Sub Panel (1) Assy 13
2-4. CD Mechanism Block 13
2-5. Main Board 14
2-6. Heat Sink 14
2-7. Chassis (T) Sub Assy 15
2-8. Lever Assy 15
2-9. Servo Board 16
2-10. Roller Assy 16
2-11. Chassis (OP) (O/S) Assy 17
2-12. Optical Pick-up Block 17

3. ELECTRICAL ADJUSTMENTS

Tuner Section 18
CD Section 21

4. DIAGRAMS

4-1. IC Pin Description 22
4-2. Block Diagram –CD Section– 25
4-3. Block Diagram –Tuner Section– 27
4-4. Block Diagram –Display Section– 29
4-5. Circuit Boards Location 31
4-6. Printed Wiring Boards –CD Mechanism Section– 33
4-7. Schematic Diagram –CD Mechanism Section– 35
4-8. Printed Wiring Board –Main Section– 37
4-9. Schematic Diagram –Main Section (1/3)– 41
4-10. Schematic Diagram –Main Section (2/3)– 43
4-11. Schematic Diagram –Main Section (3/3)– 45
4-12. Schematic Diagram –Display Section– 47
4-13. Printed Wiring Board –Display Section– 49

5. EXPLODED VIEWS

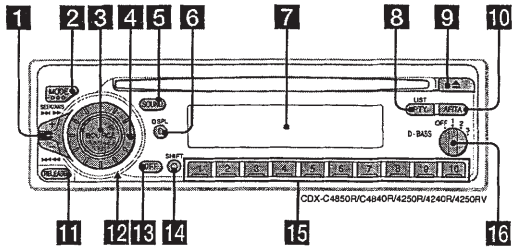
5-1. Chassis Section 55
5-2. Front Panel Section 56
5-3. CD Mechanism Section (1) 57
5-4. CD Mechanism Section (2) 58
5-5. CD Mechanism Section (3) 59

6. ELECTRICAL PARTS LIST 60

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location of controls



Refer to the pages for details.

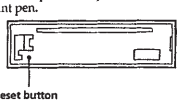
1 SEEK/AMS (seek/Automatic Music Sensor/manual search) control 8, 10, 12, 15, 22, 24
2 MODE (band/unit select) button 9, 10, 20, 23
3 SOURCE (source select) button 7, 9, 10, 14, 20, 23
4 Dial (volume/bass/treble/left-right/front-rear) 6, 18, 23
5 SOUND button 18
6 DSPL (display mode change) button 7, 8, 11, 20, 21, 23, 24
7 Display window
8 CDX-C4850R/C4840R:
PTY/LIST button
CDX-4250R/4240R/4250RV:
PTY button
Disc Memo 23
List-up 24
RDS Programme 15
9 ⏏ (eject) button 7
10 AF/TA button 12, 13, 14
11 RELEASE (front panel release) button 5, 26
12 Reset button (located on the front side of the unit behind the front panel) 5
13 OFF button 5, 7
14 SHIFT button
PLAY MODE 9, 10, 11, 12, 14, 24, 25
REP 9, 22
SET UP 6, 8, 16, 19, 21
SHUF 9, 22
15 During radio reception:
Number buttons 10, 13, 14
During CD/MD playback:
Direct disc selection buttons 22
16 D-BASS control 20

The illustration of the front panel in this manual is of the CDX-C4850R/C4840R.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Remove the front panel and press the reset button with a pointed object, such as a ballpoint pen.



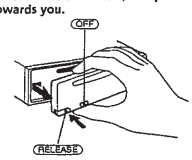
Notes
- *Pressing the reset button will erase the clock setting and some memorised functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

1 Press (OFF).

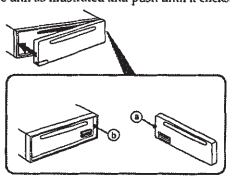
2 Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.



Notes
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When carrying the front panel with you, use the supplied front panel case.*

Attaching the front panel

Attach part ⓐ of the front panel to part ⓑ of the unit as illustrated and push until it clicks.



Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel too hard against the unit when attaching it.*
- *Do not press too hard or put excessive pressure on the display window of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.*

Caution alarm

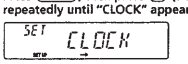
If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.
If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

Setting the clock

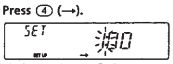
The clock uses a 24-hour digital indication.

Example: To set the clock to 10:08

1 Press (SHIFT), then press ② (SET UP) repeatedly until "CLOCK" appears.

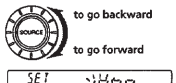


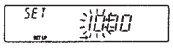
❶ Press ④ (→).



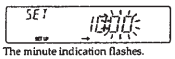
The hour indication flashes.

❷ Set the hour.



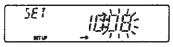


❸ Press ④ (→).

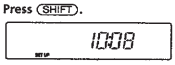


The minute indication flashes.

❹ Set the minute.



2 Press (SHIFT).



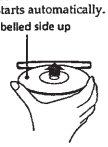
The clock starts.

3 Press (SHIFT).
After the clock setting is complete, the display returns to normal playback mode.

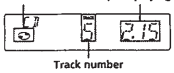
CD Player

Listening to a CD

Insert a CD.
Playback starts automatically.



If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears to start playback.

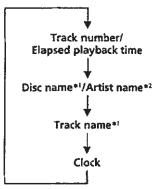


Note
To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	⏏ or (OFF)
Eject the CD	⏏

Changing the display item

CDX-C4850R/C4840R:
Each time you press (DSPL) during CD or CD TEXT disc playback, the item changes as follows:



*1 *If you inserted a non-CD TEXT disc, "NO NAME" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*

CDX-4250R/4240R/4250RV:
Each time you press (DSPL) during CD playback, the item changes as follows:

Track number/Elapsed playing time ⟷ Clock

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

Automatically scrolling a disc name
— Auto Scroll (CDX-C4850R/C4840R only)

If the disc name, artist name, or track name on a CD TEXT disc exceeds 8 characters and the Auto Scroll function is on, information automatically scrolls across the display as follows:

- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the CD TEXT disc is scrolled automatically whether you set the function on or off.

1 During playback, press (SHIFT).

2 Press (2) (SET UP) repeatedly until "A.SCRL" appears.

3 Press (4) (→) to select "A.SCRL-ON."

4 Press (SHIFT).

To cancel Auto Scroll, select "A.SCRL-OFF" in step 3 above.

Note
For some CD TEXT discs with very many characters, the following cases may happen:
— Some of the characters are not displayed
— Auto Scroll does not work.

Tip
To manually scroll the long name of a CD TEXT disc after activating the Auto Scroll function, press (SHIFT), then (1) (←) (manual scroll).

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down and release for each track you want to skip.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track
— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

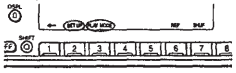
Note
If "└ └ └ └" or "┐┐┐┐" appears in the display, that means you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

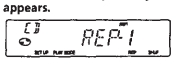
You can play CDs in various modes:
- REP (Repeat Play) repeats the current track.
- SHUF (Shuffle Play) plays all the tracks in random order.

Playing tracks repeatedly
— Repeat Play

1 During playback, press (SHIFT).
Every time you press (SHIFT), only the items you can select light up.



2 Press (6) (REP) repeatedly until "REP-1" appears.



Repeat Play starts.

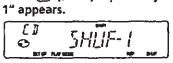
3 Press (SHIFT).

To return to normal playback mode, select "REP-OFF" in step 2 above.

Playing tracks in random order
— Shuffle Play

1 During playback, press (SHIFT).

2 Press (7) (SHUF) repeatedly until "SHUF-1" appears.



Shuffle Play starts.

3 Press (SHIFT).

To return to normal playback mode, select "SHUF-OFF" in step 2 above.

Radio

Memorising stations automatically
— Best Tuning Memory (BTM)

The unit selects the stations with the strongest signals and memorises them in the order of their frequencies. You can store up to 10 stations on each band (FM1, FM2, MW, and LW).

Caution
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the source changes as follows:

→ TUNER → CD → MD* →

** If the corresponding optional equipment is not connected, this item will not appear. (CDX-C4850R/C4840R only)*

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

→ FM1 → FM2 → MW → LW →

3 Press (SHIFT), then press (3) (PLAY MODE) repeatedly until "B.T.M" appears.

4 Press (4) (→).
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds when the setting is stored.

5 Press (SHIFT).

Notes
- *The unit does not store stations with weak signals. If only a few stations can be received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*
- *If a CD is not in the unit, only the tuner band appears even if you press (SOURCE).*

Memorising only the desired stations

You can preset up to 20 FM stations (10 each for FM1 and 2), up to 10 MW stations, and up to 10 LW stations in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band.

3 Push the SEEK/AMS control up or down to tune in the station that you want to store on the number button.

4 Press and hold the desired number button ((1) to (10)) until "MEM" appears.
The number button indication appears in the display.

Note
If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorised stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band.

3 Press the number button ((1) to (10)) on which the desired station is stored.

If you cannot tune in a preset station

Push and release the SEEK/AMS control up or down to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "LOCAL" (local seek mode) is displayed. Then press (4) (→) to select "LOCAL-ON." Press (SHIFT). Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).

If FM stereo reception is poor
— Monaural Mode

1 During radio reception, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "MONO" appears.

2 Press (4) (→) repeatedly until "MONO-ON" appears.
The sound improves, but becomes monaural ("ST" disappears).

3 Press (SHIFT).

To return to normal playback mode, select "MONO-OFF" in step 2 above.

Changing the display item

Each time you press (DSPL), the item changes as follows:

Frequency ↔ Clock

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

RDS

Overview of the RDS function

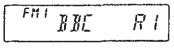
Radio Data System (RDS) is a broadcasting service that allows FM stations to send additional digital information along with the regular radio programme signal. Your car stereo offers you a variety of services. Here are just a few: retuning the same programme automatically, listening to traffic announcements, and locating a station by programme type.

Notes
- *Depending on the country or region, not all of the RDS functions are available.*
- *RDS may not work properly if the signal strength is weak or if the station you are tuned to is not transmitting RDS data.*

Displaying the station name

The name of the current station lights up in the display.

Select an FM station (page 9).
When you tune in an FM station that transmits RDS data, the station name appears in the display.



Note
The "" indication means that an RDS station is being received.*

Changing the displayed item

Each time you press (DSPL), the item changes as follows:

Frequency (Station Name) ↔ Clock

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

continue to next page →

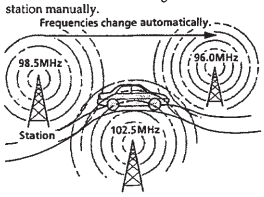
Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

Note
"NO NAME" appears if the received station does not transmit RDS data.

Retuning the same programme automatically

— Alternative Frequencies (AF)

The Alternative Frequencies (AF) function automatically selects and retunes the station with the strongest signal in a network. By using this function, you can continuously listen to the same programme during a long-distance drive without having to retune the station manually.



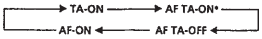
1 **Select an FM station (page 9).**

2 **Press (AF/TA) repeatedly until "AF-ON" appears.**
The unit starts searching for an alternative station with a stronger signal in the same network.

Note
When there is no alternative station in the area and you do not need to search for an alternative station, turn the AF function off by pressing (AF/TA) repeatedly until "AF TA-OFF" appears.

Changing the displayed item

Each time you press (AF/TA), the item changes as follows:



** Select this to turn on both the AF and TA functions.*

Notes
- *When "NO AF" and the station name flash alternately, it means that the unit cannot find an alternative station in the network.*
- *If the station name starts flashing after selecting a station with the AF function on, this indicates that no alternative frequency is available. Push the SEEK/AMS control up or down while the station name is flashing (within eight seconds). The unit starts searching for another frequency with the same PI (Programme Identification) data ("PI SEEK" appears and no sound is heard). If the unit cannot find another frequency, "NO PI" appears, and the unit returns to the previously selected frequency.*

Listening to a regional programme

The "REG-ON" (regional on) function lets you stay tuned to a regional programme without being switched to another regional station. (Note that you must turn the AF function on.) The unit is factory preset to "REG-ON," but if you want to turn off the function, do the following.

1 **During radio reception, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "REG" appears.**

2 **Press (4) (→) repeatedly until "REG-OFF" appears.**

3 **Press (SHIFT).**
Note that selecting "REG-OFF" might cause the unit to switch to another regional station within the same network.

To return to regional on, select "REG-ON" in step 2 above.

Note
This function does not work in the United Kingdom and in some other areas.

Local link function (United Kingdom only)

The Local Link function lets you select other local stations in the area, even if they are not stored on your number buttons.

1 **Press a number button that has a local station stored on it.**

2 **Within five seconds, press the number button of the local station again.**

3 **Repeat this procedure until the desired local station is received.**

Listening to traffic announcements

The Traffic Announcement (TA) and Traffic Programme (TP) data let you automatically tune in an FM station that is broadcasting traffic announcements even if you are listening to other programme sources.

Press (AF/TA) repeatedly until "TA-ON" or "AF TA-ON" appears.
The unit starts searching for traffic information stations. "TP" appears in the display when the unit finds a station broadcasting traffic announcements. When the traffic announcement starts, "TA" flashes. The flashing stops when the traffic announcement is over.

Tip
If the traffic announcement starts while you are listening to another programme source, the unit automatically switches to the announcement and goes back to the original source when the announcement is over.

Notes
- *"NO TP" flashes for five seconds if the received station does not broadcast traffic announcements. Then, the unit starts searching for a station that broadcasts it.*
- *When "EON" appears with "TP" in the display, the current station makes use of broadcast traffic announcement of other stations in the same network.*

To cancel the current traffic announcement

Press (AF/TA) or (SOURCE).
To cancel all traffic announcements, turn off the function by pressing (AF/TA) until "AF TA-OFF" appears.

Presetting the volume of traffic announcements

You can preset the volume level of the traffic announcements beforehand so you won't miss the announcement. When a traffic announcement starts, the volume will be automatically adjusted to the preset level.

1 **Select the desired volume level.**

2 **Press (AF/TA) for two seconds.**
"TA" appears and the setting is stored.

Receiving emergency announcements

If an emergency announcement comes in while you are listening to the radio, the programme will be automatically switched to it. If you are listening to a source other than the radio, the emergency announcements will be heard if you set AF or TA to on. The unit will then automatically switch to these announcements no matter which source you are listening to at the time.

Presetting the RDS stations with the AF and TA data

When you preset RDS stations, the unit stores each station's data as well as its frequency, so you don't have to turn on the AF or TA function every time you tune in the preset station. You can select a different setting (AF, TA, or both) for individual preset stations, or the same setting for all preset stations.

Presetting the same setting for all preset stations

1 **Select an FM band (page 9).**

2 **Press (AF/TA) repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).**
Note that selecting "AF TA-OFF" stores not only RDS stations, but also non-RDS stations.

3 **Press (SHIFT), then press (3) (PLAY MODE) repeatedly until "BTM" appears.**

4 **Press (4) (→) until "B.T.M" flashes.**

5 **Press (SHIFT).**

Presetting different settings for each preset station

1 **Select an FM band, and tune in the desired station (page 10).**

2 **Press (AF/TA) repeatedly to select either "AF-ON", "TA-ON" or "AF TA-ON" (for both AF and TA functions).**

3 **Press the desired number button until "MEM" appears.**
Repeat from step 1 to preset other stations.

Tip
If you want to change the preset AF and/or TA setting after you tune in the preset station, you can do so by turning the AF or TA function on or off.

Locating a station by programme type

You can locate the station you want by selecting one of the programme types shown below.

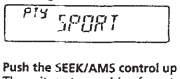
Programme types	Display
News	NEWS
Current Affairs	AFFAIRS
Information	INFO
Sports	SPORT
Education	EDUCATE
Drama	DRAMA
Culture	CULTURE
Science	SCIENCE
Varied	VARIED
Popular Music	POP M
Rock Music	ROCK M
Easy Listening	EASY M
Light Classical	LIGHT M
Classical	CLASSICS
Other Music Type	OTHER M
Weather	WEATHER
Finance	FINANCE
Children's programmes	CHILDREN
Social Affairs	SOCIAL A
Religion	RELIGION
Phone In	PHONE IN
Travel	TRAVEL
Leisure	LEISURE
Jazz Music	JAZZ
Country Music	COUNTRY
National Music	NATION M
Oldies Music	OLDIES
Folk Music	FOLK M
Documentary	DOCUMENT
Not specified	NONE

Note
You cannot use this function in some countries where no PTY (Programme Type selection) data is available.

1 **Press (PTY/LIST) during FM reception until "PTY" appears.**

The current programme type name appears if the station is transmitting the PTY data. "- - - -" appears if the received station is not an RDS station, or if the RDS data has not been received.

2 **Press (PTY/LIST) repeatedly until the desired programme type appears.**
The programme types appear in the order shown in the above table. Note that you cannot select "NONE" (Not specified) for searching.

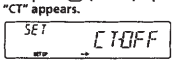


3 **Push the SEEK/AMS control up or down.**
The unit starts searching for a station broadcasting the selected programme type. When the unit finds the programme, the programme type appears again for five seconds.
"NO" and the programme type appear alternately for five seconds if the unit cannot find the programme type. It then returns to the previous selected station.

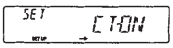
Setting the clock automatically

The CT (Clock Time) data from the RDS transmission sets the clock automatically.

1 **During radio reception, press (SHIFT), then press (2) (SET UP) repeatedly until "CT" appears.**



2 **Press (4) (→) repeatedly until "CT-ON" appears.**
The clock is set.



3 **Press (SHIFT) to return to the normal display.**

To cancel the CT function

Select "CT-OFF" in step 2 above.

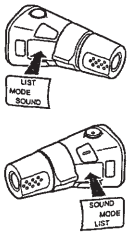
Notes
- *The CT function may not work even though an RDS station is being received.*
- *There might be a difference between the time set by the CT function and the actual time.*

Other Functions

You can also control this unit with an optional rotary commander.

Labelling the rotary commander

Depending on how you mount the rotary commander, attach the appropriate label as shown in the illustration below.

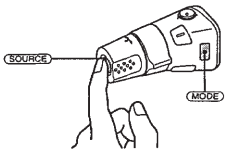


Using the rotary commander

The rotary commander works by pressing buttons and/or rotating controls.

CDX-C4850R/C4840R only:
You can also control optional CD or MD units with the rotary commander.

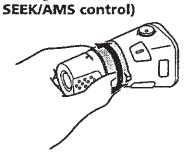
By pressing buttons (the SOURCE and MODE buttons)



Each time you press (SOURCE), the source changes as follows:
TUNER → CD → MD*
- *If the corresponding optional equipment is not connected, this item will not appear. (CDX-C4850R/C4840R only)*

Pressing (MODE) changes the operation in the following ways:
- Tuner: FM1 → FM2 → MW → LW
- CD unit: CD1 → CD2 → ...
- MD unit: MD1 → MD2 → ...

By rotating the control (the SEEK/AMS control)



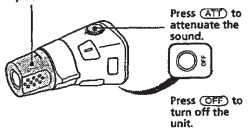
Rotate the control momentarily and release it to:
- Locate a specific track on a disc. Rotate and hold the control until you locate the specific point in a track, then release it to start playback.
- Tune in stations automatically. Rotate and hold the control to find a specific station.

By pushing in and rotating the control (the PRESET/DISC control)

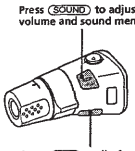
Push in and rotate the control to:
- Receive the stations memorised on the number buttons.
- Change the disc. (CDX-C4850R/C4840R only)

Other operations

Rotate the VOL control to adjust the volume.



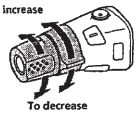
Press (SOUND) to adjust the volume and sound menu.



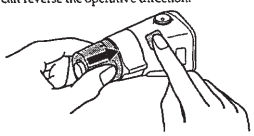
Press (LIST) to display the memorised names.

Changing the operative direction

The operative direction of controls is factory-set as shown below.



If you need to mount the rotary commander on the right hand side of the steering column, you can reverse the operative direction.



Press (SOUND) for two seconds while pushing the VOL control.

Tip
You can also change the operative direction of these controls with the unit (page 19).

Adjusting the sound characteristics

You can adjust the bass, treble, balance, and fader.
You can store the bass and treble levels independently for each source.

1 **Select the item you want to adjust by pressing (SOUND) repeatedly.**

VOL (volume) → BAS (bass) →
TRE (treble) → BAL (left-right) →
FAD (front-rear)

2 **Adjust the selected item by rotating the dial.**
Adjust within three seconds after selecting the item. (After three seconds, the dial function reverts to volume control.)

Attenuating the sound

Press (ATT) on the optional rotary commander.
"ATT-ON" flashes momentarily.

To restore the previous volume level, press (ATT) again.

Tip
The unit decreases the volume automatically when a telephone call comes in (Telephone ATT function). (CDX-C4850R/4250R/4250RV only)

Changing the sound and display settings

The following items can be set:
- CLOCK (page 6).
- CT (Clock Time) (page 16).
- D.INFO (Dual Information) - to display the clock and the play mode at the same time (ON) or to display the information alternately (OFF).
- AMBER/GREEN - to change the illumination colour to amber or green. (CDX-C4850R/C4840R/4250R only)
- DIM (Dimmer)-to change the brightness of the display. (CDX-C4850R/C4840R/4250R/4240R only)
  — Select "ON" to dim the display.
- BEEP - to turn on or off the beeps.
- RM (Rotary Commander) - to change the operative direction of the controls of the rotary commander.
  — Select "NORM" to use the rotary commander as the factory-set position.
  — Select "REV" when you mount the rotary commander on the right side of the steering column.
- M.DSPL (Motion Display) - to turn the motion display on or off.
- A.SCRL (Auto Scroll) (page 8, 21). (CDX-C4850R/C4840R only)

Note
If you connect an optional power amplifier and do not use the buit-in amplifier, the beep sound will be disabled.

1 **Press (SHIFT).**

2 **Press (2) (SET UP) repeatedly until the desired item appears.**

Each time you press (2) (SET UP), the item changes as follows:
CLOCK → CT → D.INFO* → AMBER/GREEN → DIM → BEEP → RM → M.DSPL → A.SCRL*
- *When no CD or MD is playing, this item will not appear.*

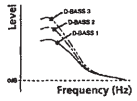
Note
The displayed item will differ depending on the source.

3 **Press (4) (→) to select the desired setting (Example: ON or OFF).**

4 **Press (SHIFT).**
After the mode setting is complete, the display returns to normal playback mode.

Boosting the bass sound
— D-bass

You can enjoy a clear and powerful bass sound. The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.
You can hear the bass line more clearly even while the vocal volume remains the same. You can emphasise and adjust the bass sound easily with the D-BASS control.



Adjusting the bass curve

Turn the D-BASS control to adjust the bass level (1, 2 or 3).
"D-BASS" appears in the display.

To cancel, turn the control to OFF.

Note
If the bass sound becomes distorted, adjust the D-BASS control or volume.

With Optional Equipment

CD/MD Unit (CDX-C4850R/C4840R only)

This unit can control a maximum of seven external CD/MD units in this configuration:
CD unit - maximum of five
MD unit - maximum of five.
Any combination up to seven will work.
If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play a CD TEXT disc.

Playing a CD or MD

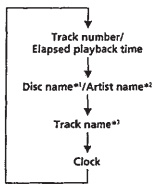
1 Press (SOURCE) repeatedly to select CD or MD.

2 Press (MODE) until the desired unit appears.
CD/MD playback starts.

When a CD/MD unit is connected, all the tracks play from the beginning.

Changing the display item

Each time you press (DSPL) during CD, CD TEXT, or MD playback, the item changes as follows:



*1 *If you have not labelled the disc or if there is no disc name prerecorded on the MD, "NO NAME" appears in the display.*
*2 *If you play a CD TEXT disc, the artist name appears in the display after the disc name. (Only for CD TEXT discs with the artist name.)*
*3 *If the track name of a CD TEXT disc or MD is not prerecorded, "NO NAME" appears in the display.*

You can label CD and CD TEXT discs with a personalised name using the disc memo function. Refer to "Labelling a CD" (page 23). However, if you use personalised labels, they will always take priority over the original CD TEXT information when such information is displayed.

Tip
If you want to display the original CD TEXT information after labeling the CD TEXT disc with a personalized name, press (SHIFT), then (4) (→).

After you select the desired item, the display will automatically change to the Motion Display mode after a few seconds.
In the Motion Display mode, all the above items are scrolled in the display one by one in order.

Tip
The Motion Display mode can be turned off. (See "Changing the sound and display settings" on page 19).

Automatically scrolling a disc name
— Auto Scroll

If the disc name, artist name, or track name on a CD TEXT disc or MD exceeds 8 characters and the Auto Scroll function is on, information automatically scrolls across the display as follows:
- *The disc name appears when the disc has changed (if the disc name is selected).*
- *The track name appears when the track has changed (if the track name is selected).*

If you press (DSPL) to change the display item, the disc or track name of the MD or CD TEXT disc is scrolled automatically whether you set the function on or off.

1 During playback, press (SHIFT).

2 Press (2) (SET UP) repeatedly until "A.SCRL" appears.

3 Press (4) (→) to select "A.SCRL-ON."

4 Press (SHIFT).

To cancel Auto Scroll, select "A.SCRL-OFF" in step 3 above.

Note
For some CD TEXT discs with very many characters, the following cases may happen:
— Some of the characters are not displayed
— Auto Scroll does not work.

Tip
To manually scroll the long name of an MD or CD TEXT disc after activating the Auto Scroll function, Press (SHIFT), then (1) (←) (manual scroll).

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down and release for each track you want to skip.

To locate succeeding tracks
To locate preceding tracks

Locating a specific point in a track
— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward
To search backward

Locating a disc by disc number
— Direct Disc Selection

Press the number button that corresponds with the desired disc number.
The desired disc in the current unit begins playback.

Playing tracks repeatedly
— Repeat Play

You can select:
- REP-1 - to repeat a track.
- REP-2 - to repeat a disc.

1 During playback, press (SHIFT).

2 Press (6) (REP) repeatedly until the desired setting appears.

REP-1 → REP-2 → REP-OFF

Repeat Play starts.

3 Press (SHIFT).

To return to normal playback mode, select "REP-OFF" in step 2 above.

Playing tracks in random order — Shuffle Play

You can select:
- SHUF-1 - to play the tracks on the current disc in random order.
- SHUF-2 - to play the tracks in the current unit in random order.
- SHUF-ALL - to play all the tracks in all the units in random order.

1 During playback, press (SHIFT).

2 Press (7) (SHUF) repeatedly until the desired setting appears.

SHUF-1 → SHUF-2 → SHUF-ALL* → SHUF-OFF

Shuffle Play starts.

* *"SHUF-ALL" is available for CD changer(s) only.*

3 Press (SHIFT).

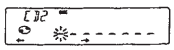
To return to normal playback mode, select "SHUF-OFF" in step 2 above.

Labelling a CD — Disc Memo

(For a CD unit with the custom file function)

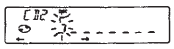
You can label each disc with a personalised name. You can enter up to eight characters for a disc. If you label a CD, you can locate the disc by name (page 24) and select the specific tracks for playback (page 24).

1 Play the CD and press (PTY/LIST) for two seconds.



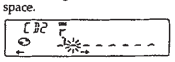
2 Enter the characters.

❶ Rotate the dial clockwise to select the desired characters.
(A → B → C → ··· Z → 0 → 1 → 2 → ··· 9 → + → − → * → / → \ → > → < → . → _)



If you rotate the dial counterclockwise, the characters will appear in reverse order.
If you want to put a blank space between characters, select "_" (underbar).

❷ Press (4) (→) after locating the desired character.
The flashing cursor moves to the next space.



If you press (1) (←), the flashing cursor moves to the left.

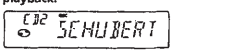
❸ Repeat steps ❶ and ❷ to enter the entire name.

3 To return to normal CD playback mode, press (PTY/LIST) for two seconds.

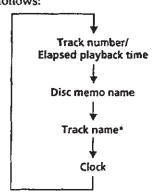
Tip
To erase or correct a name, enter "_" (under-bar) for each character.

Displaying the disc memo

Press (DSPL) during CD or CD TEXT disc playback.



Each time you press (DSPL) during CD or CD TEXT disc playback, the item changes as follows:



* *If you connect an optional CD unit with the CD TEXT function, the CD TEXT information will appear in the display when you play a CD TEXT disc.*

Erasing the disc memo

1 Press (SOURCE) repeatedly to select CD.

2 Press (MODE) repeatedly to select the CD unit.

3 Press (PTY/LIST) for two seconds.

4 Press (DSPL) for two seconds.

5 Rotate the dial to select the name you want to erase.

6 Press (5) (ENTER) for two seconds.
The name is erased.
Repeat steps 5 and 6 if you want to erase other names.

7 Press (PTY/LIST) for two seconds.
The unit returns to normal CD playback mode.

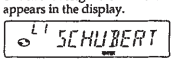
Note
When a personalised label is erased, the original CD TEXT information will appear in the display.

Locating a disc by name

— List-up (For a CD unit with the custom file function or an MD unit)

You can use this function for discs that have been assigned a custom name. For more information on disc names, refer to "Labelling a CD" (page 23).

1 **Press (PTY/LIST).**
The name assigned to the current disc appears in the display.



When you assign a disc memo label to a CD TEXT disc, it takes priority over the original CD TEXT information.

2 **Press (PTY/LIST) repeatedly until you find the desired disc.**

3 **Press (5) (ENTER) to play the disc.**

Notes
- *After a disc name has been displayed for five seconds, the display returns to normal playback mode. To turn off the display, press (DSPL).*
- *The track names are not displayed during MD or CD TEXT disc playback.*
- *If there are no discs in the magazine, "NO DISC" appears in the display.*
- *If a disc has not been assigned a custom file, "********" appears in the display.*
- *If the disc information has not been read by the unit, "NOT READ" appears in the display. To load a disc, first press the number button, then choose the disc that has not been loaded.*
- *There are also some letters which cannot be displayed (during MD or CD TEXT disc playback).*

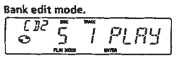
Selecting specific tracks for playback

— Bank

(For a CD unit with the custom file function)

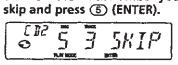
If you label the disc, you can set the unit to skip or play the tracks of your choice.

1 **Start playing the disc and press (SHIFT), then press (3) (PLAY MODE) for two seconds.**
Bank edit mode.



Note
If you have not labelled the disc, the bank edit mode does not appear. To go back to normal playback mode, press (SHIFT).

2 **Push the SEEK/AMS control up or down to select the track number you want to skip and press (5) (ENTER).**



The indication changes from "PLAY" to "SKIP." To return the indication to "PLAY," press (5) (ENTER) again.

3 **Repeat step 2 to set "PLAY" or "SKIP" for all the tracks.**

4 **Press (3) (PLAY MODE) for two seconds.**
The unit returns to normal CD playback mode.

5 **Press (SHIFT).**

Notes
- *You can set "PLAY" or "SKIP" for up to 24 tracks.*
- *You cannot set "SKIP" for all the tracks on a CD.*

Playing specific tracks only

You can select:
- BANK-ON - to play the tracks with the "PLAY" setting.
- BANK-INV (Inverse) - to play the tracks with the "SKIP" setting.

1 **During playback, press (SHIFT), then press (3) (PLAY MODE) repeatedly until "BANK" appears.**

2 **Press (4) (→) to repeatedly until the desired setting appears.**

BANK-ON → BANK-INV → BANK-OFF

Playback starts from the track following the current one.

3 **Press (SHIFT).**

To return to normal playing mode, select "BANK-OFF" in step 2 above.

Connections

Cautions

- This unit is designed for negative earth 12 V DC operation only.
- Be careful not to pinch any wires between a screw and the body of the car or this unit or between any moving parts such as the seat railing, etc.
- Connect the power connecting cord ⑧ to the unit and speakers before connecting it to the auxiliary power connector.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in combination with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual components' fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.
- Connecting this unit may cause some car battery wear when your car has no ACC (accessory) position on the ignition key switch. In this case, please consult your nearest Sony dealer.

Notes of connection example

Notes on the control leads

- *The power aerial control lead (blue) supplies +12 V DC when you activate the AF (Alternative Frequency) or the TA (Traffic Announcement) function.*
- *A power aerial without a relay box cannot be used with this unit.*

Warning

If you have a power aerial without a relay box, connecting this unit with the supplied power connecting cord ⑧ may damage the aerial.

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition switch is turned off.

Notes on speaker connection

- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Be sure to connect passive speakers to these terminals.*

Reset button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen, etc.

Conexiones

Precauciones

- Esta unidad ha sido diseñada para alimentarse con 12 V CC, negativo a masa, solamente.
- Tenga cuidado de no atrapar ningún cable entre algún tornillo y la carrocería del automóvil o esta unidad o entre las partes móviles, como por ejemplo los raíles del asiento, etc.
- Conecte el cable de conexión de alimentación ⑧ a la unidad y los altavoces antes de conectarlo al conector de alimentación auxiliar.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil de potencia nominal superior a la del fusible de la unidad. Si conecta esta unidad en combinación con otros componentes estéreo, la potencia nominal del circuito del automóvil a los que dichos componentes estén conectados debe ser superior a la suma de la potencia nominal del fusible de los componentes. Si no existen circuitos de automóvil de potencia nominal tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si no hay circuitos de automóvil disponibles para conectar esta unidad, conecte la misma a un circuito de automóvil de potencia nominal superior a la del fusible de la unidad de forma que no se desactiven otros circuitos si el fusible de dicha unidad se funde.
- La conexión de esta unidad puede producir cierta descarga de la batería si el automóvil no dispone de posición ACC (accesorios) en el interruptor de la llave de encendido. En este caso, consulte con el proveedor Sony más próximo.

Notas de ejemplo de conexiones

Notas sobre conductores de control

- *El conductor de control (azul) de la antena motorizada suministra + 12 V CC al activar la función AF (frecuencias alternativas) o TA (anuncios de tráfico).*
- *Con esta unidad no podrá utilizarse una antena motorizada sin caja de relés.*

Advertencia

Si dispone de una antena motorizada sin dispositivo de relé, la conexión de esta unidad con el cable de conexión de alimentación ⑧ suministrado puede dañar la antena.

Conexión para protección de la memoria

Si conecta el conductor de entrada amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque ponga la llave de encendido en la posición de desactivación.

Notas sobre la conexión de los altavoces

- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

Botón de restauración

Cuando finalice la instalación y las conexiones, cerciórese de pulsar el botón de restauración con un bolígrafo, etc.

Ligações

Cuidado

- Este aparelho foi concebido para funcionar somente com corrente contínua de 12 V com negativo à massa.
- Tenha cuidado para que os fios não fiquem entalados entre os parafusos e a carroçaria do automóvel ou a caixa do aparelho nem entre as peças móveis, por exemplo, as calhas dos bancos, etc.
- Ligue o cabo de alimentação de corrente ⑧ ao aparelho e aos alifalantes antes de o ligar ao conector de corrente auxiliar.
- **Ligue todos os cabos de massa num ponto de massa comum.**
- Ligue o cabo amarelo a um circuito eléctrico livre do automóvel, cuja potência nominal seja superior à dos fusíveis do aparelho. Se ligar este aparelho em série com outros componentes estéreo, a potência nominal do circuito eléctrico do automóvel onde os ligar tem de ser superior à soma das potência nominal dos fusíveis de todos os componentes individuais. Se não houver nenhum circuito eléctrico do automóvel com uma potência nominal tão elevada como a dos fusíveis do aparelho, ligue-o directamente à bateria. Se não estiver disponível nenhum circuito eléctrico do automóvel para ligação deste aparelho, ligue-o a um circuito eléctrico do automóvel com uma potência nominal superior à dos fusíveis do aparelho, de tal modo que, se o aparelho rebentar os fusíveis respectivos, nenhum outro circuito seja cortado.
- A ligação deste aparelho pode provocar o desgaste da bateria se a chave de ignição do automóvel não tiver a posição ACC (acessórios). Nesse caso, entre em contacto com o agente da Sony mais próximo.

Notas sobre o exemplo de ligação

Notas sobre os fios de controlo

- *O fio de controlo da antena eléctrica (azul) fornece +12 V CC quando activar as funções AF (frequência alternativa) ou TA (informações de trânsito).*
- *Não pode utilizar uma antena eléctrica sem caixa de relé com este aparelho.*

Atenção

Se a antena eléctrica não tiver uma caixa de relé, o facto de ligar este aparelho com a cabo de alimentação ⑧ fornecido, pode provocar danos na antena.

Ligação para alimentação continua da memória

Quando o fio amarelo de entrada de alimentação for ligado, os circuitos de memória ficarão com alimentação continua, mesmo se a chave de ignição estiver desligada.

Notas sobre a ligação dos altifalantes

- *Antes de ligar os altifalantes, desligue o aparelho.*
- *Utilize altifalantes com impedância de 4 a 8 ohm, e com capacidade admissível de potência adequada. Caso contrário, os altifalantes poderão sofrer avarias.*
- *Não ligue os terminais do sistema de altifalantes ao chassis do automóvel, e não ligue os terminais do altifalante direito aos terminais do altifalante esquerdo.*
- *Não tente ligar os altifalantes em paralelo.*
- *Não ligue nenhum sistema de altifalantes activos (com amplificadores incorporados) aos terminais dos altifalantes do aparelho. Caso o faça, poderá avariar o sistema de altifalantes activos. Portanto, não se esqueça de ligar altifalantes passivos a estes terminais.*

Botão de reinicialização

Depois de completar a instalação e as ligações, tem de carregar no botão de reinicialização com uma esferográfica ou um objecto semelhante.

Anslutning

Säkerhetsföreskrifter

- Denna bilstereo är endast avsedd för anslutning till ett negativt jordat, 12 V bilbatteri.
- Var noga med att inga kablar kläms mellan någon skruv eller att de blir klämda mellan rörliga delar som t.ex. bilsätet.
- Anslut strömkabeln ⑧ till enheten och högtalarna innan du ansluter den till den yttre strömanslutning.
- **Dra samtliga jordledningar till en och samma jordningspunkt.**
- Anslut den gula kabeln till en ledig bilkrets med ett högre amperetal än enhetens. Om du seriekopplar enheten till andra stereokomponenter måste den bilkrets de kopplas till ha ett högre amperetal än summan av de enskilda delarnas amperevärde. Om det inte finns några bilkretsar med en så hög amperetal som enhetens ska du ansluta enheten direkt till batteriet. Om inga bilkretsar finns för anslutning till enheten ska du ansluta enheten till en bilkrets med ett högre amperetal än enhetens, så att inga andra kretsar stängs av om enhetens säkring brinner av.
- När du ansluter den här enheten kan det hända att bilbatteriet tar slut snabbare om bilens tändlås saknar det speciella läget för tillbehör, ACC. I så fall bör du ta kontakt med din närmaste Sony-återförsäljare.

Att observera angående anslutningsexemplen

Att observera angående de olika styrkablarna

- *Motorantennens styrkabel (blå) leder + 12 volts likström när mottagning av alternativa frekvenser AF eller mottagning av trafikmeddelanden TA aktiverats.*
- *En motorantenn utan styrrelädosa kan inte anslutas till denna bilstereo.*

Varning

Om du har en motorantenn utan reläsdosa kan antennen skadas om du ansluter enheten med den medföljande strömkabeln ⑧.

Anslutning för minnesstöd

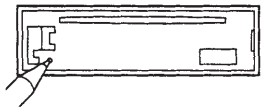
När du anslutit den gula, ingående strömkabeln försörjs minneskretsen med ström hela tiden, även när tändläset slås ifrån.

Att observera angående högtalarnas anslutning

- *Slå av bilstereon innan du ansluter högtalarna.*
- *Anslut endast högtalare med en impedans mellan 4 och 8 ohm och med tillräcklig effekthanteringskapacitet för att skydda högtalarna mot skador.*
- *Anslut inte något av högtalaruttagen till bilens chassi. Anslut inte heller uttagen på höger högtalare till uttagen på vänster högtalare.*
- *Anslut inte högtalarna parallellt.*
- *Anslut inte aktiva högtalare (med inbyggda slutsteg) till bilstereons högtalaruttag, eftersom de kan skada de aktiva högtalarna. Var noga med att bara ansluta passiva högtalare till dessa uttag.*

Återställningsknappen

När du har installerat enheten och alla anslutningar är klara, återställer du den genom att trycka på återställningsknappen med t ex en kulspetspenna.



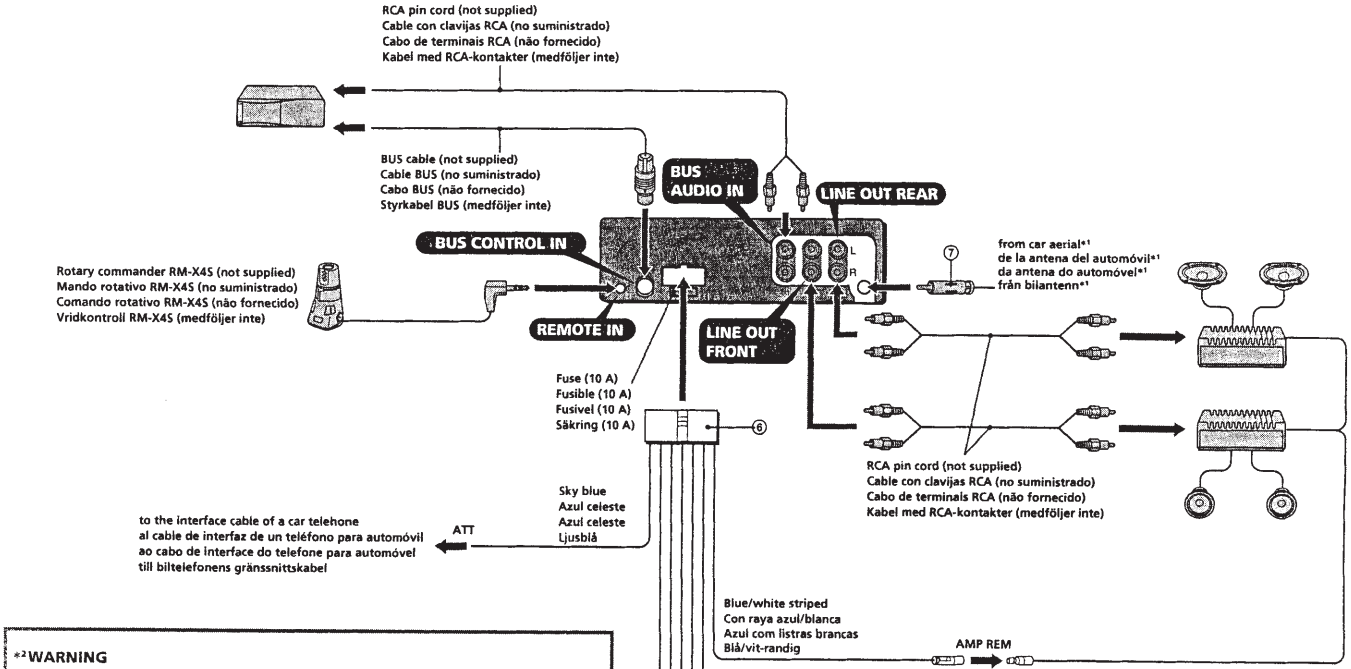
Connection example
Ejemplo de conexiones
Exemplo de ligações
Anslutningsexempel

*1 *Note for the aerial connecting*
If your car aerial is an ISO (International Organization for Standardization) type, use the supplied adapter ⑦ to connect it. First connect the car aerial to the supplied adapter, then connect it to the aerial jack of the master unit.

*1 *Nota sobre la conexión de la antena*
Si la antena del automóvil es del tipo ISO (International Organization for Standardization), emplee el adaptador suministrado ⑦ para conectarla. En primer lugar, conecte la antena del automóvil al adaptador suministrado y, a continuación, a la toma de antena de la unidad principal.

*1 *Nota referente à ligação da antena*
Se a antena do automóvel for uma antena de tipo ISO (International Organization for Standardization), utilize o adaptador fornecido ⑦ para fazer a ligação respectiva. Ligue primeiro a antena do automóvel ao adaptador fornecido e depois à ficha tipo jack de antena do sistema principal.

*1 *Angående antennanslutning*
Om motorantennen är av ISO-typ (International Organization for Standardization), använder du medföljande adapter ⑦ för att ansluta den. Anslut först antennen till medföljande adapter och därefter till antennuttaget på huvudenheten.


RCA pin cord (not supplied)
Cable con clavijas RCA (no suministrado)
Cabo de terminais RCA (não fornecido)
Kabel med RCA-kontakter (medföljer inte)
BUS cable (not supplied)
Cable BUS (no suministrado)
Cabo BUS (não fornecido)
Styrkabel BUS (medföljer inte)
BUS AUDIO IN
LINE OUT REAR
BUS CONTROL IN
Rotary commander RM-X4S (not supplied)
Mando rotativo RM-X4S (no suministrado)
Comando rotativo RM-X4S (não fornecido)
Vridkontroll RM-X4S (medföljer inte)
REMOTE IN
LINE OUT FRONT
from car aerial*1
de la antena del automóvil*1
da antena do automóvel*1
från bilantenn*1
Fuse (10 A)
Fusible (10 A)
Fusível (10 A)
Säkring (10 A)
RCA pin cord (not supplied)
Cable con clavijas RCA (no suministrado)
Cabo de terminais RCA (não fornecido)
Kabel med RCA-kontakter (medföljer inte)
Sky blue
Azul celeste
Azul celeste
Ljusblå
ATT
to the interface cable of a car telephone
al cable de interfaz de un teléfono para automóvil
ao cabo de interface do telefone para automóvel
till biltelefonens gränssnittskabel
Blue/white striped
Con raya azul/blanca
Azul com listras brancas
Blå/vit-randig
AMP REM
Max. supply current 0.3 A
Corriente máx. de alimentación de 0,3 A
Corrente máxima de 0,3 A
Maximal strömstyrka 0,3 A

To connect to AMP REMOTE IN of the optional power amplifier.
This connection is only for amplifiers. Connecting any other system may damage the unit.

Para conectar a AMP REMOTE IN del amplificador de potencia opcional.
Esta conexión es sólo para amplificadores. La conexión de cualquier otro sistema puede dañar la unidad.

Para ligação a AMP REMOTE IN do amplificador de potência adicional.
Esta ligação destina-se apenas aos amplificadores. A ligação de qualquer outro sistema pode provocar avarias no aparelho.

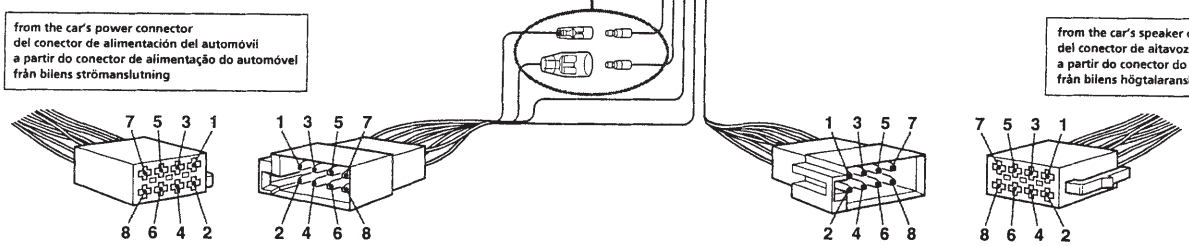
Ansluta till AMP REMOTE IN på den valfria effektförstärkaren.
Denna anslutning gäller endast för högtalare. Om du ansluter något annat system kan enheten skadas.

***2 WARNING**
Auxiliary power connectors may vary depending on the car. Be sure to check the power connection diagram sheet supplied with the unit. Improper connections may damage your car. If the supplied power connecting cord can not be used with your car, consult your nearest Sony dealer.

***2 ADVERTENCIA**
Los conectores de alimentación auxiliar pueden variar en función del automóvil. Asegúrese de consultar el diagrama de conexión de alimentación suministrado con la unidad. Las conexiones incorrectas pueden dañar el automóvil. Si no es posible utilizar con el automóvil el cable de conexión de alimentación suministrado, póngase en contacto con el proveedor Sony más próximo.

***2 ADVERTÊNCIA**
Os conectores de corrente auxiliares podem variar de carro para carro. Não se esqueça de verificar o diagrama de ligação de corrente fornecido com o aparelho. As ligações mal executadas podem danificar o seu carro. Se não puder utilizar o cabo de alimentação fornecido com o seu carro, contacte o agente Sony da sua zona.

***2 VARNING**
Typen av yttre strömanslutning varierar från bil till bil. Kontrollera strömanslutningsschemat som medföljer enheten så att du ansluter på rätt sätt. Felaktig anslutning kan skada bilen. Kontakta närmaste Sony-återförsäljare om den medföljande strömkabeln inte passar till din bil.


from the car's power connector
del conector de alimentación del automóvil
a partir do conector de alimentação do automóvel
från bilens strömanslutning
from the car's speaker connector
del conector de altavoz del automóvil
a partir do conector do altifalante do automóvel
från bilens högtalaranslutning
7 5 3 1
8 6 4 2
1 3 5 7
2 4 6 8

4*2	Yellow Amarillo Amarelo Gul	continuous power supply suministro de alimentación continua alimentação de corrente contínua kontinuerlig strömförsörjning	7*2	Red Rojo Vermelho Röd	switched power supply suministro conmutado de alimentación alimentação de corrente comutada switchad strömförsörjning
5	Blue Azul Azul Blå	power aerial control control de antena motorizada antena eléctrica ström till antennstyrning	8	Black Negro Preto Svart	earth toma de tierra Terra jord
6	Orange/White Naranja/blanco Cor de laranja/branco Orange/vit	switched illumination power supply fuente de alimentación de iluminación conmutada fonte de alimentação comutada para iluminação switchad strömförsörjning till belysning			

Positions 1, 2 and 3 do not have pins.
Las posiciones 1, 2 y 3 no disponen de pines.
As posições 1, 2 e 3 não têm pinos.
Positionerna 1, 2 och 3 saknar stift.

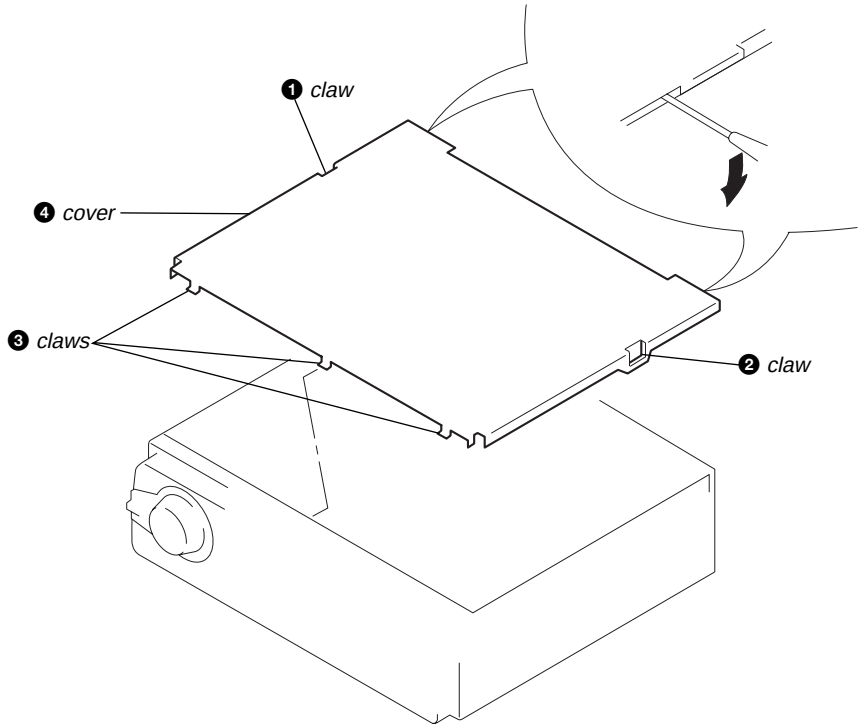
1	Purple Púrpura Violeta Violett	+	Speaker, Rear, Right Altavoz, Parte posterior, Derecho Altifalante, Parte de trás, Direito Högtalare, Bakre, Höger	5	White Blanco Branco Vit	+	Speaker, Front, Left Altavoz, Parte frontal, Izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, Främre, Vänster
2		–	Speaker, Rear, Right Altavoz, Parte posterior, Derecho Altifalante, Parte de trás, Direito Högtalare, Bakre, Höger	6		–	Speaker, Front, Left Altavoz, Parte frontal, Izquierdo Altifalante, Parte da frente, Esquerdo Högtalare, Främre, Vänster
3	Grey Gris Cinza Grå	+	Speaker, Front, Right Altavoz, Parte frontal, Derecho Altifalante, Parte da frente, Direito Högtalare, Främre, Höger	7	Green Verde Verde Grön	+	Speaker, Rear, Left Altavoz, Parte posterior, Izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, Bakre, Vänster
4		–	Speaker, Front, Right Altavoz, Parte frontal, Derecho Altifalante, Parte da frente, Direito Högtalare, Främre, Höger	8		–	Speaker, Rear, Left Altavoz, Parte posterior, Izquierdo Altifalante, Parte de trás, Esquerdo Högtalare, Bakre, Vänster

Negative polarity positions 2, 4, 6, and 8 have striped cords.
Las posiciones de polaridad negativa 2, 4, 6 y 8 tienen cables con raya.
As posições 2, 4, 6 e 8 (polaridade negativa) têm cabos às riscas.
De negativa polpositionerna 2, 4, 6 och 8 har randiga kablar.

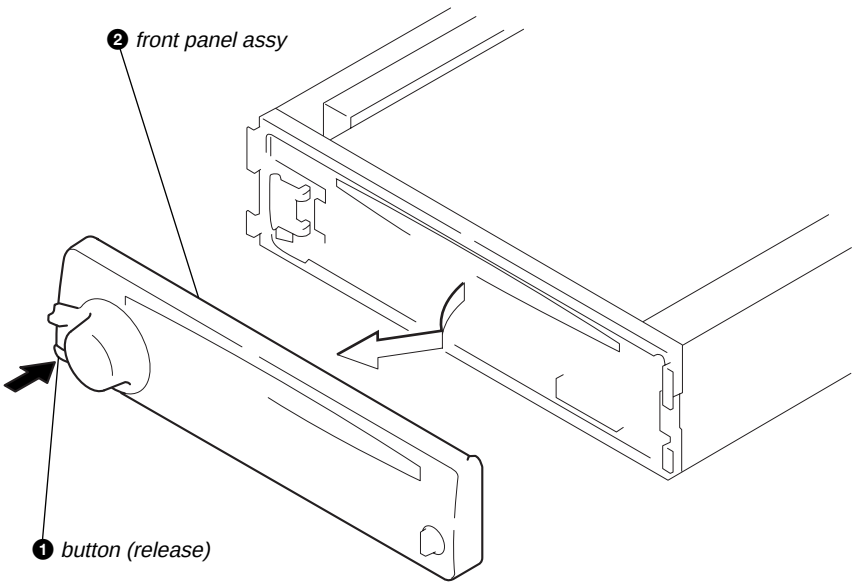
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

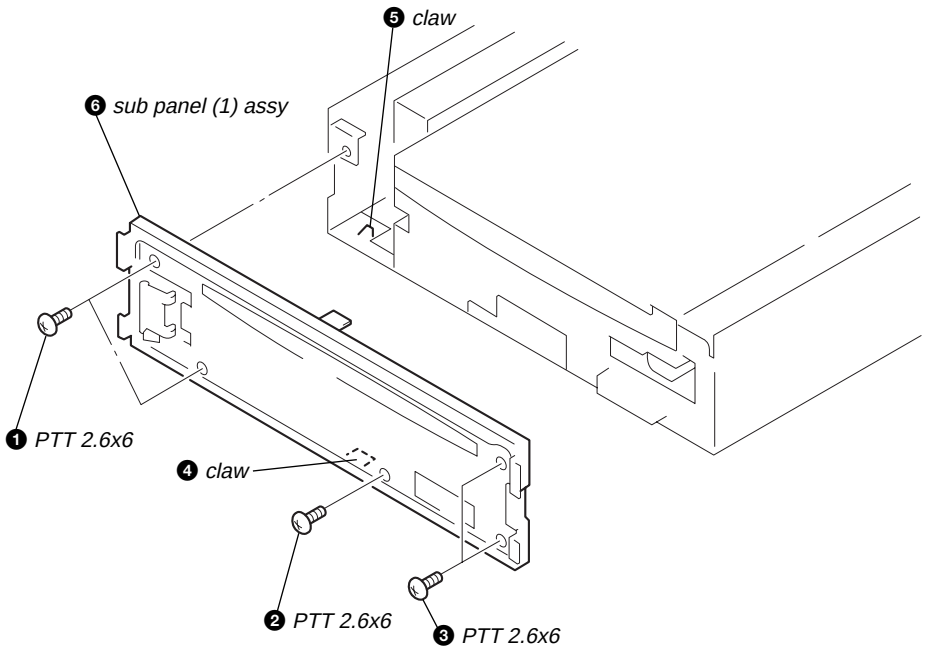
2-1. COVER



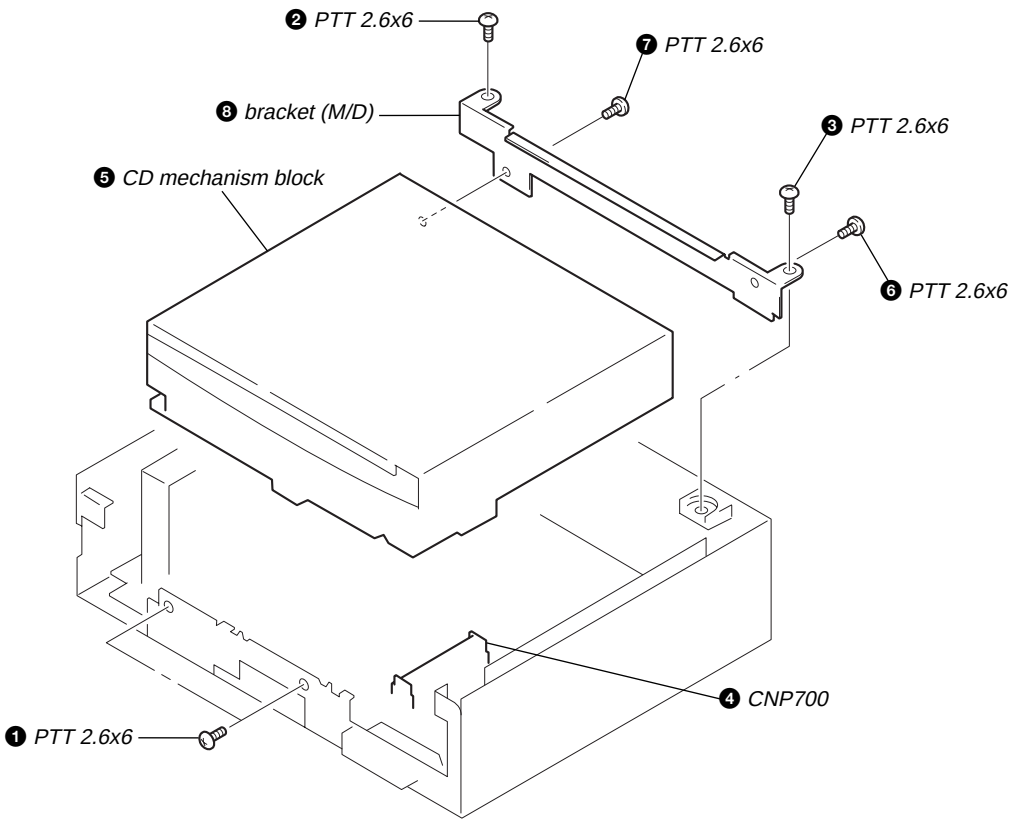
2-2. FRONT PANEL ASSY



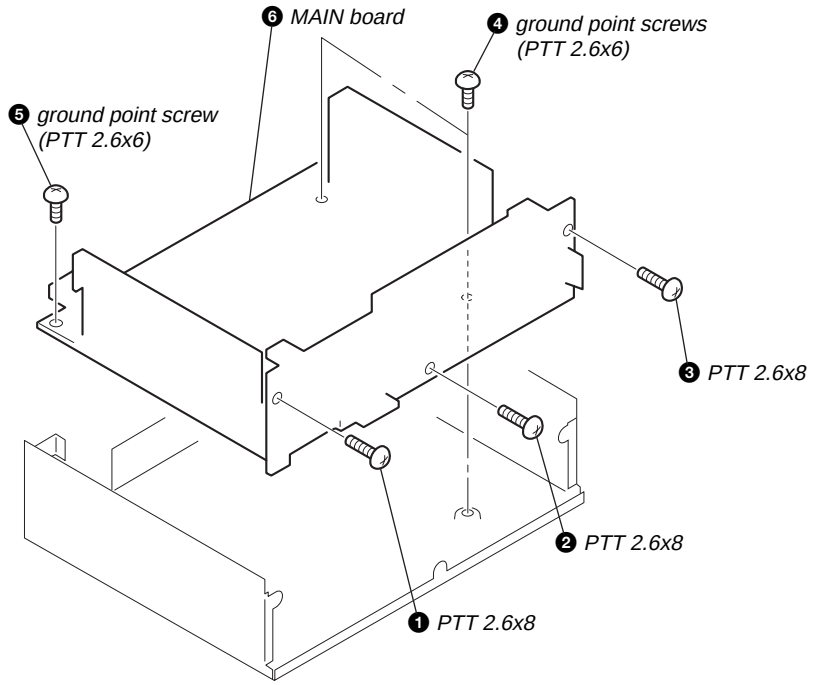
2-3. SUB PANEL (1) ASSY



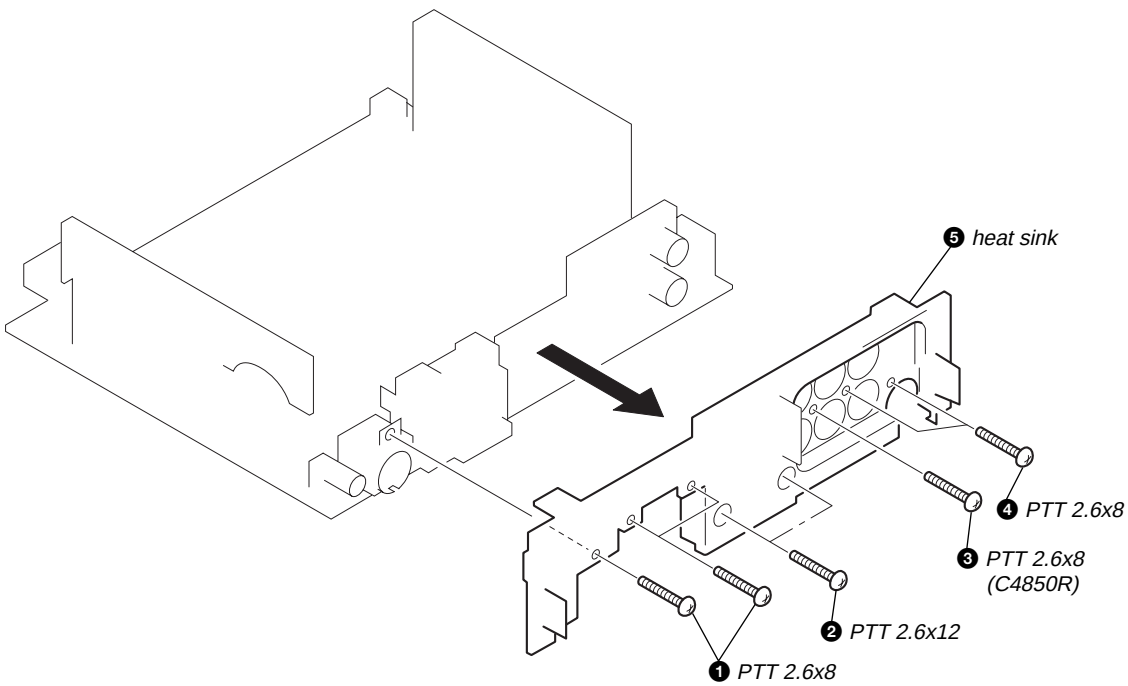
2-4. CD MECHANISM BLOCK



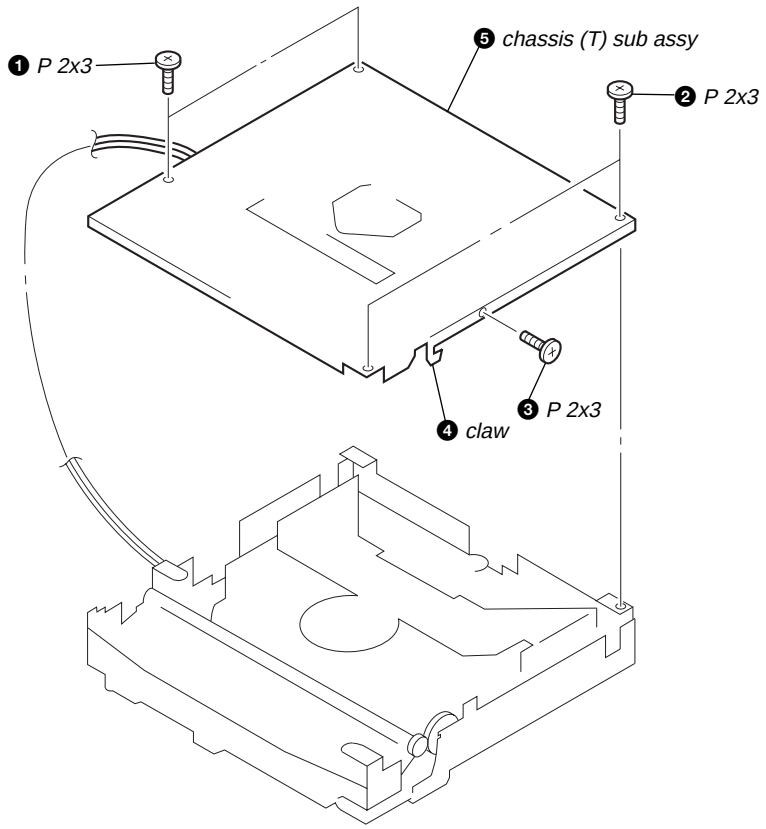
2-5. MAIN BOARD



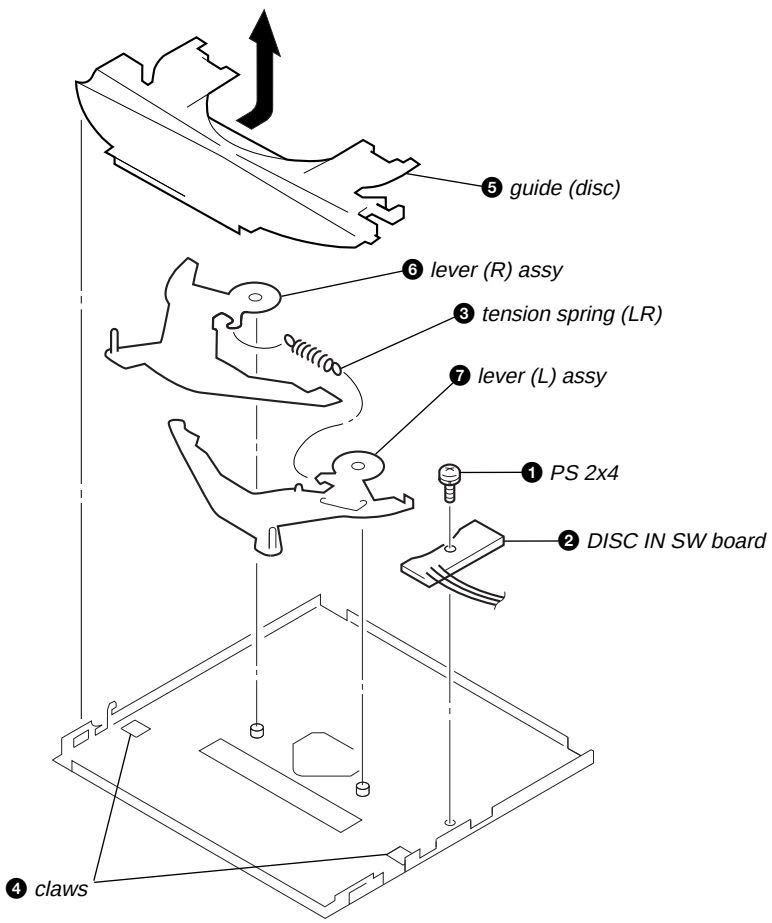
2-6. HEAT SINK



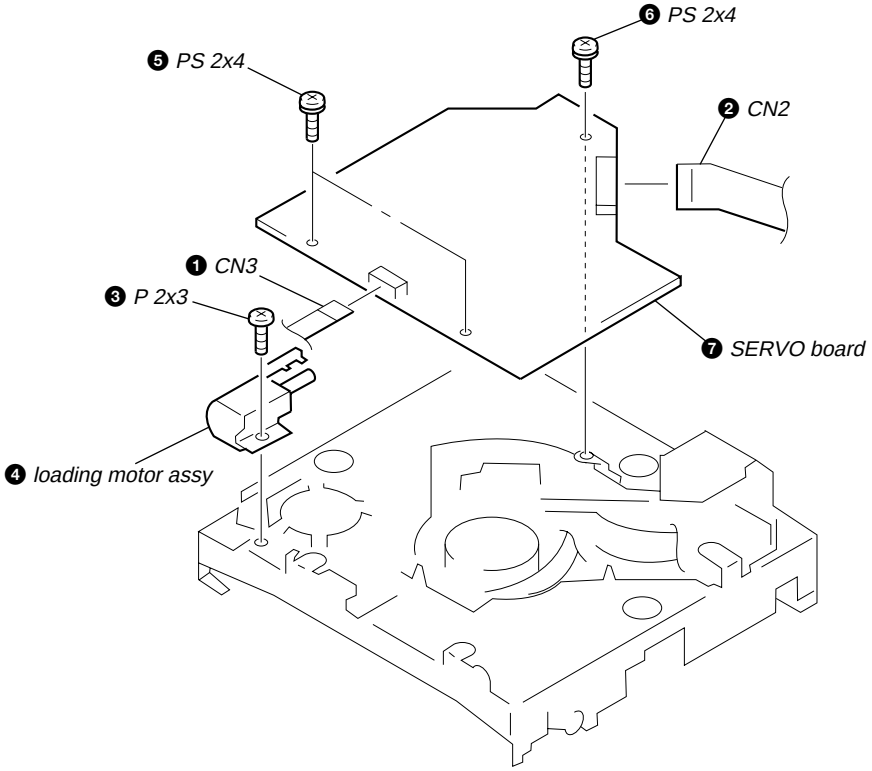
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY

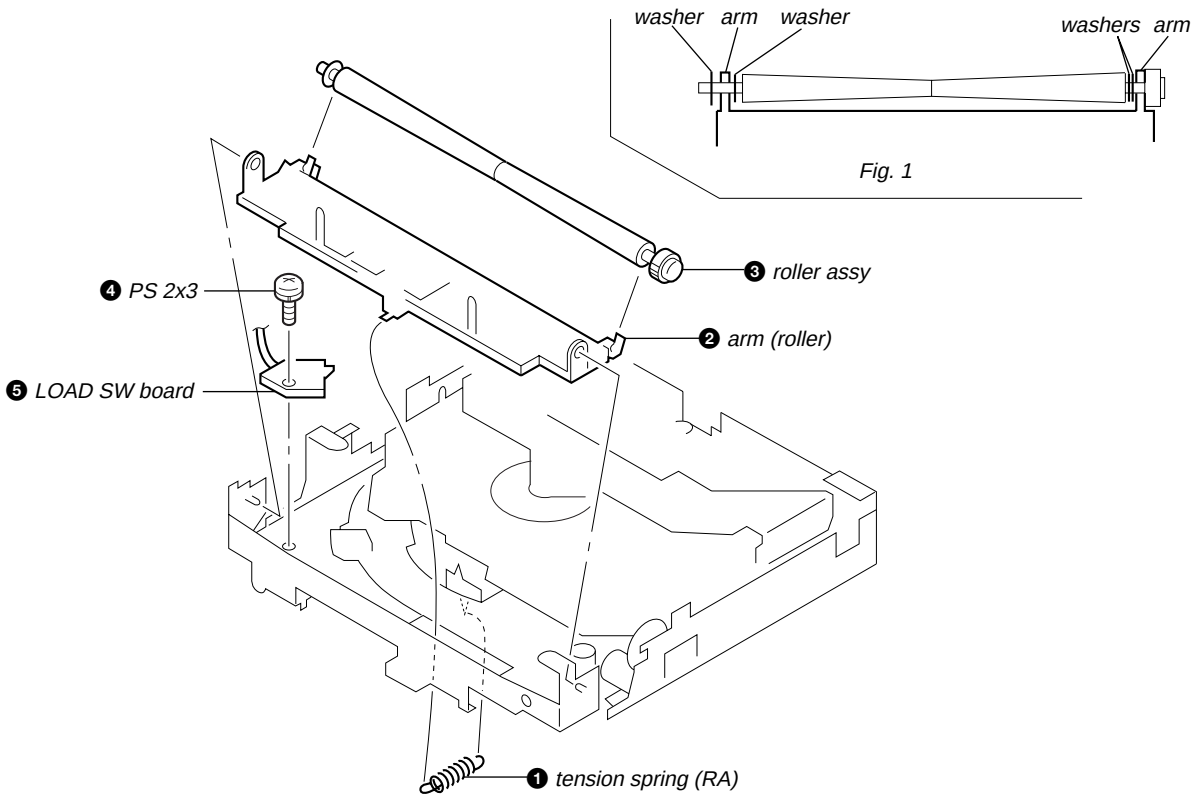


2-9. SERVO BOARD

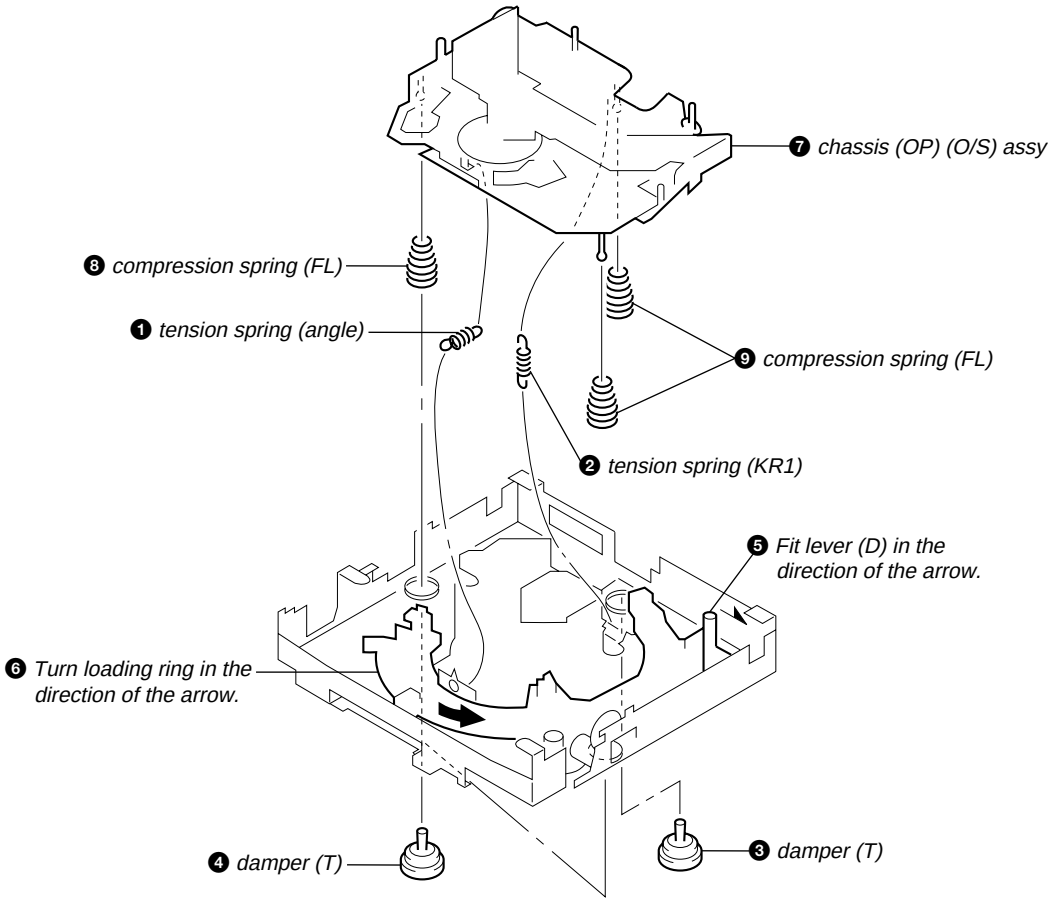


2-10. ROLLER ASSY

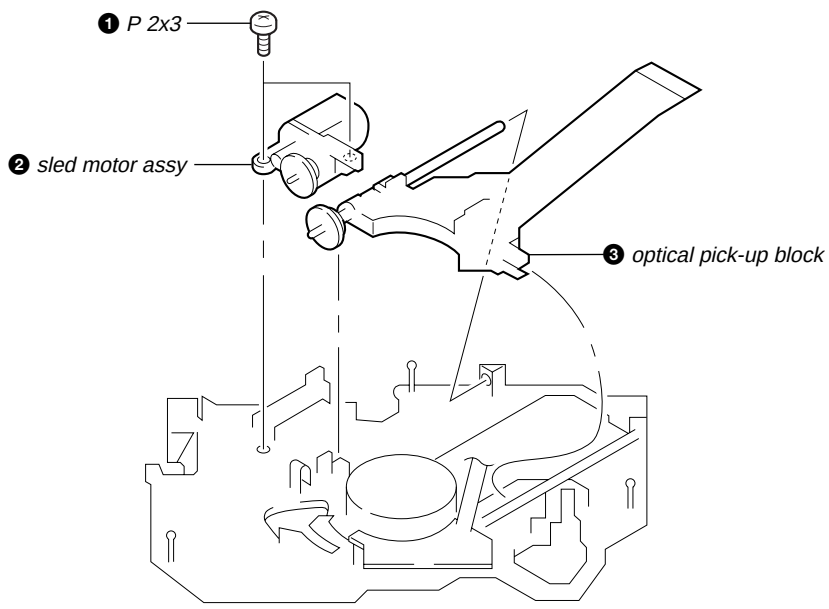
• When installing, take note of the positions arm (roller) and washers. (Fig. 1)



2-11. CHASSIS (OP) (O/S) ASSY


❼ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❾ compression spring (FL)
❷ tension spring (KR1)
❺ Fit lever (D) in the direction of the arrow.
❻ Turn loading ring in the direction of the arrow.
❹ damper (T)
❸ damper (T)

2-12. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

TUNER SECTION **0 dB = 1 μV**

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and MW Auto Scan/Stop Level adjustments can be performed easier than it in ordinary procedure.

<Set the Test Mode>
1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for more than two seconds.
5. Then the display indicates all lights, the test mode is set.

<Release the Test Mode>
1. Push the [OFF] button.

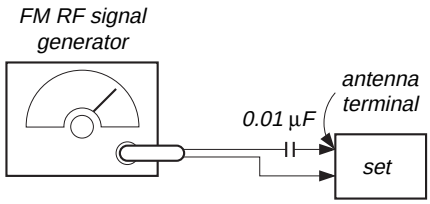
Note on Adjustment

The adjustments of tuner section, should be performed according to the following sequence.
1. FM Auto Scan/Stop Level Adjustment
2. FM Stereo Separation Adjustment
3. FM RDS S-Meter Adjustment
4. MW Auto Scan/Stop Level Adjustment

FM Auto Scan/Stop Level Adjustment

Setting :

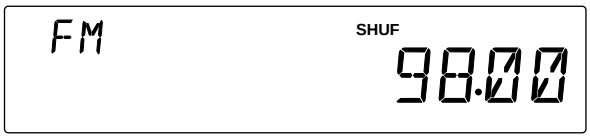
D-BASS switch : OFF
SOURCE button : FM



Carrier frequency : 98.00 MHz
Output level : 22 dB (12.6 μV)
Mode : mono
Modulation : 1 kHz, 22.5 kHz deviation (30%)

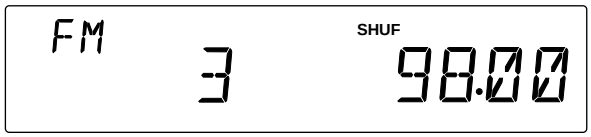
Procedure :
1. Set to the test mode.
2. Push the [SOURCE] button and set to FM.

Display



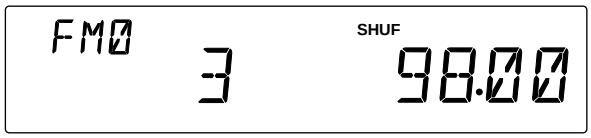
3. Push the preset [3] button.

Display



4. Adjust with the volume RV2 on TU601 so that the "FM" indication turns to "FM0" indication on the display window. But, in case of already indicated "FM0", turn the RV2 so that put out light "0" indication and adjustment.

Display

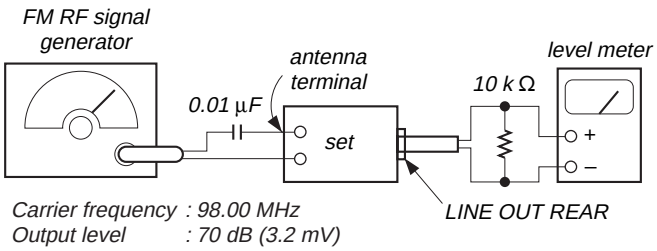


Adjustment Location : See page 20.

FM Stereo Separation Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM



Carrier frequency : 98.00 MHz
Output level : 70 dB (3.2 mV)
Mode : stereo
Modulation : main : 1 kHz, 20 kHz deviation (26.5%)
sub : 1 kHz, 20 kHz deviation (26.5%)
19 kHz pilot : 7.5 kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	Level meter connection	Level meter reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU601 for nimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU601 for minimum reading.

L-CH stereo separation : Ⓐ – Ⓑ
R-CH stereo separation : Ⓒ – Ⓓ
The separations of both channels should be equal.

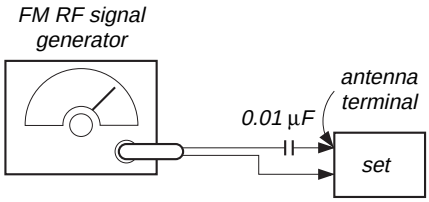
Specification : Separation more than 28 dB

Adjustment Location : See page 20.

FM RDS S-Meter Adjustment

Setting :

D-BASS switch : OFF
SOURCE button : FM

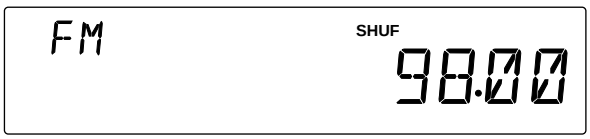


Carrier frequency : 98.00 MHz
Output level : 35 dB (56.2 µV)
Mode : mono
Modulation : no modulation

Procedure :

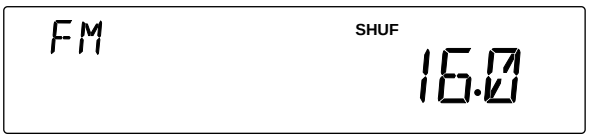
1. Set to the test mode. (See page 18.)
2. Push the SOURCE button and set to FM.

Display



3. Push the preset 10 button.
4. Adjust RV801 so that the display indication is “16.0”.

Display



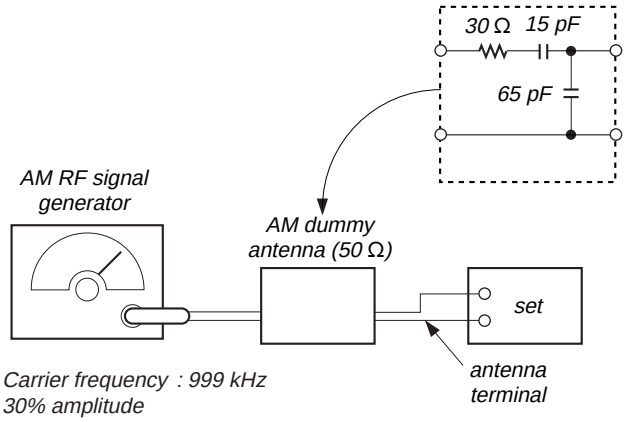
Specification : Display indication : 15.8 to 16.2

Adjustment Location : See page 20.

MW Auto Scan/Stop Level Adjustment

Setting :

D-BASS switch : OFF
SOURCE → MODE button : MW

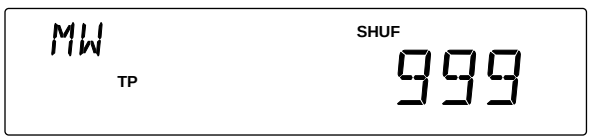


Carrier frequency : 999 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)

Procedure :

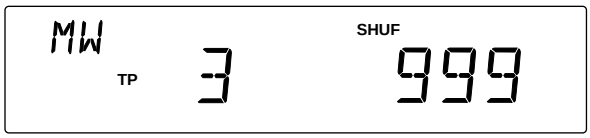
1. Set to the test mode. (See page 18.)
2. Push the [SOURCE] button.
3. Push the [MODE] button and set to MW.

Display



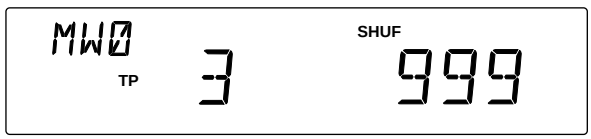
4. Push the preset [3] button.

Display



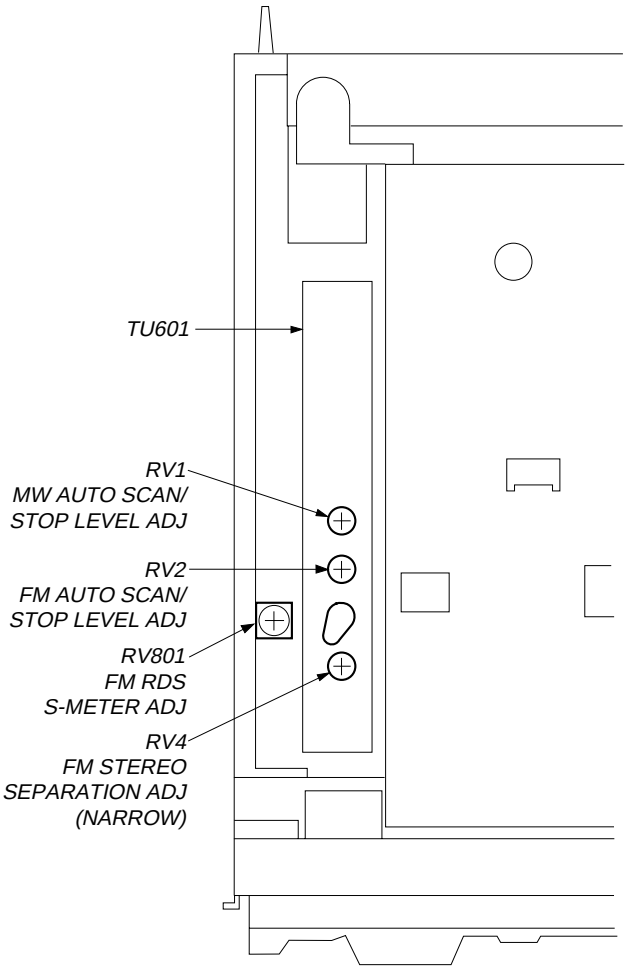
5. Adjust with the volume RV1 on TU601 so that the “MW” indication turns to “MW0” indication on the display window. But, in case of already indicated “MW0”, turn the RV1 so that put out light “0” indication and adjustment.

Display



Adjustment Location : tuner unit (TU601)

Adjustment Location : tuner unit (TU601)

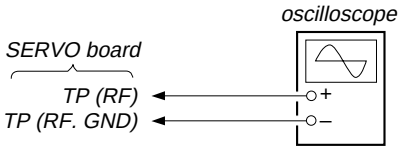


CD SECTION

Note:
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

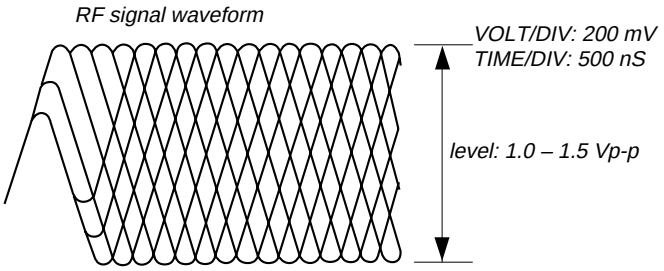
Focus Bias Adjustment

Setting: This adjustment is performed with the set placed horizontally.



Procedure:
1. Connect an oscilloscope between TP (RF) and TP (RF. GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S900) on the MAIN board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the sharp "≈ " can be clearly distinguished at the center of the waveform.



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location: servo board

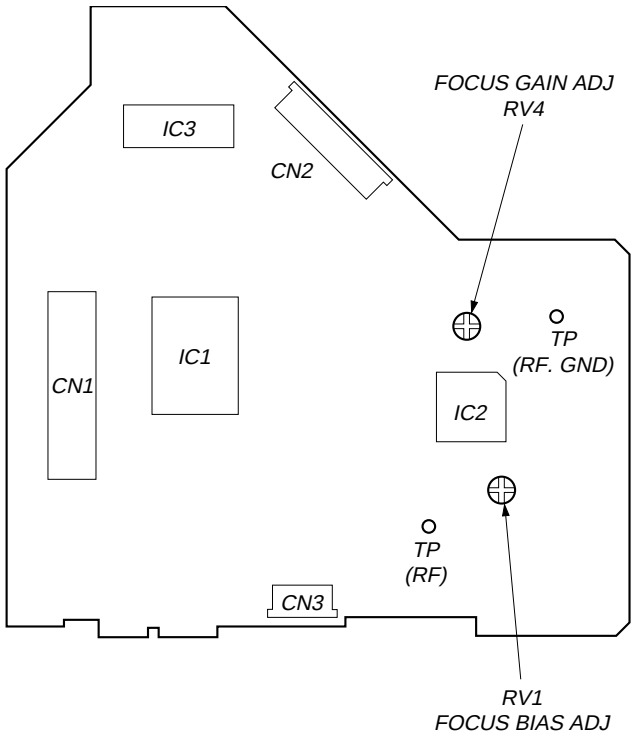
Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:
- Optical pick-up
- RV4

Procedure:
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low:
  Focus does not function and no music is selected.
- If the gain is too high:
  Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location: servo board

Adjustment Location: servo board (component side)



SECTION 4
DIAGRAMS

4-1. IC PIN DESCRIPTION

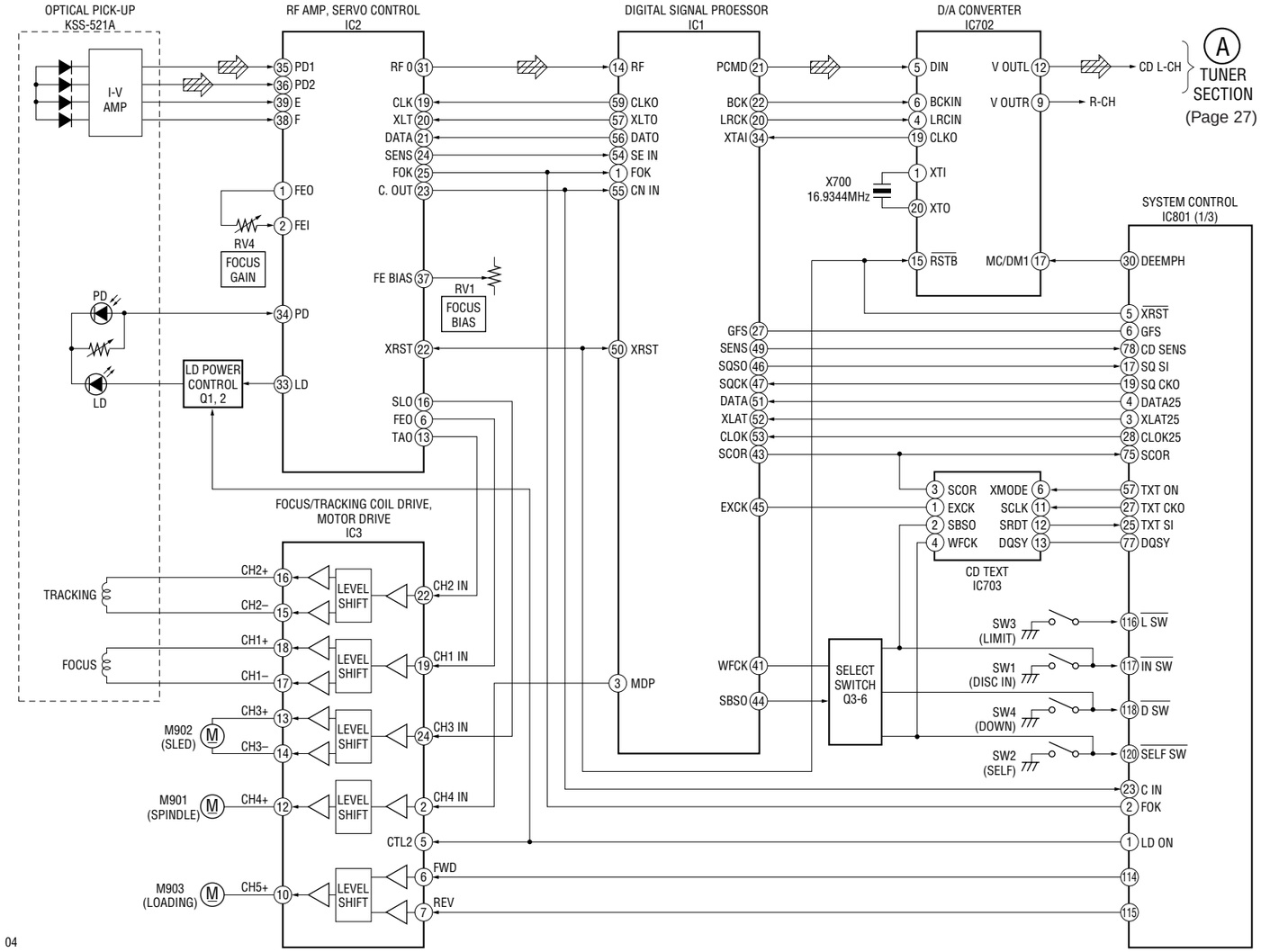
• IC801 MB90574APMT-G-199-BND (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Pin Description
1	$\overline{\text{LD ON}}$	O	Laser ON/OFF control output
2	FOK	I	Focus OK signal detection input
3	XLAT25	O	CD signal processing latch output
4	DATA25	O	CD signal serial data output
5	$\overline{\text{XRST}}$	O	Reset output to CD signal processor IC.
6	GFS	I	GFS signal detection input
7	NIL	—	Not used. (Connect to ground in this set.)
8	VCC	—	Power supply pin (+5 V)
9 – 11	NIL	—	Not used. (Open)
12	FLS SI/$\overline{\text{NOSE1}}$	I	Front panel attachment detection input
13	LCD SO/FLS SO	O	LCD serial data output
14	LCD CKO	O	LCD serial clock output
15	BEEP	O	BEEP output
16	NIL	—	Not used. (Open)
17	SQ SI	I	Sub Q data input
18	NIL	—	Not used. (Connect to ground in this set.)
19	SQ CKO	O	Sub Q read clock output
20	UNI SI	I	BUS system serial interface input
21	UNI SO	O	BUS system serial interface output
22	UNI CK	I/O	BUS system serial clock input/output
23	C IN	I	Track jump No. count input
24	SIRCS	I	Remote commander input
25	TXT SI	I	CD-TEXT data input
26	NIL	—	Not used. (Connect to ground in this set.)
27	TXT CKO	O	CD-TEXT data read clock output
28	CLOK25	O	CD signal processing serial clock output
29	$\overline{\text{SYSRST}}$	O	System reset output
30	DEEMPH	O	De-emphasis output
31	$\overline{\text{AMP ATT}}$	O	Power amplifier attenuator control output
32	MD ON	O	CD mechanism power control output
33	VSS	—	Ground
34	C	—	Power stabilization capacitor pin
35	CD ON	O	CD power control output
36	$\overline{\text{BUS ON}}$	O	BUS ON control output
37	NIL	O	Power control output of A/D conversion.
38	DVCC	—	VREF input of D/A converter.
39	DVSS	—	Ground of D/A converter.
40	NIL	—	Not used. (Open)
41	ANGLE	O	LCD view angle alignment output (Not used in this set.)
42	AVCC	—	Analog power supply pin (+5 V)
43	AVRH	—	VREF + input of A/D converter.
44	AVRL	—	VREF – input of A/D converter.
45	AVSS	—	Analog ground
46 – 48	KEY IN0 – 2	I	Key input 0 – 2
49	RC IN0	I	Rotary commander input 0
50	QUALITY	I	Noise detection input
51	NIL	—	Not used. (Connect to ground in this set.)
52	MPDH	I	Tuner multi path input
53	S-METER	I	S-meter voltage detection input
54	VCC	—	Power supply pin (+5 V)
55	NS MASK	O	Noise detection output

Pin No.	Pin Name	I/O	Pin Description
56	AMP ON	O	Power amplifier power control output
57	TXT ON	O	Reset output to CD-TEXT decoder IC.
58	$\overline{\text{VOL ATT}}$	O	Electric volume mute control output
59	NIL	—	Not used. (Open)
60	ATT	O	System attenuate control output
61	$\overline{\text{RC IN1}}$	I	Rotary commander shift key input 1
62	TU ATT	O	Tuner attenuate output
63	VSS	—	Ground
64	NIL	—	Not used. (Open)
65	SSTOP	I	IF counter result signal detection input of PLL.
66	$\overline{\text{TEST}}$	I	Test mode initial setting detection input
67	DAVN	I	RDS IC data acquisition detection input
68	FM ON/$\overline{\text{AM ON}}$	O	FM ON output
69	TU ON	O	Tuner power control output
70	SDA	I/O	I²C BUS serial data input/output
71	SCL	O	I²C BUS serial clock output
72	$\overline{\text{NOSE2}}$	I	Front panel OPEN detection input
73	X1A	O	Sub ceramic oscillator output (32 kHz)
74	X0A	I	Sub ceramic oscillator input (32 kHz)
75	SCOR	I	SCOR signal detection input
76	BU IN	I	Backup power detection input
77	DQSY	I	CD-TEXT data setting completion signal detection input
78	CD SENS	I	CD SENS signal detection input
79	NIL	I	Key input acknowledge
80	TEL ATT	I	Telephone attenuate detection input
81	ST/MONO	I/O	Tuner stereo signal detection input/forced monaural output
82	$\overline{\text{SEEKOUT}}$	O	SEEK output
83	SD IN	I	Signal detector input
84	WIDE	O	WIDE select output (Not used in this set.)
85	NARROW	O	NARROW select output (Not used in this set.)
86	HSTX	—	Hardware standby input (Connect to pin (º (RESET).)
87	MD2	—	Operation mode input (Connect to ground in this set.)
88, 89	MD1, 0	—	Operation mode input (Connect to VCC in this set.)
90	$\overline{\text{RESET}}$	I	Reset input
91	VSS	—	Ground
92	X0	I	Main ceramic oscillator input (4.19 MHz)
93	X1	O	Main ceramic oscillator output (4.19 MHz)
94	VCC	—	Power supply pin (+5 V)
95	COM8V ON	O	COM 8V control output
96	NIL	—	Not used. (Open)
97	AREA1	I	Destination select input 1 (Fixed at “L” in this set.)
98	AREA2	I	Destination select input 2 (Fixed at “L” (AEP, UK model) or “H” (German model) in this set.)
99	LOUD	I	Fixed at “L” in this set.
100	BAND	I	Fixed at “H” in this set.
101	$\overline{\text{ACC IN}}$	I	Accessory power detection input
102, 103	PH3, 2	I	Disc insertion detection photo sensor input (Fixed at “H” in this set.)
104	LCD CE	O	LCD chip enable output
105	$\overline{\text{FLS W}}$	I	Flash write input (Fixed at “H” in this set.)
106, 107	RE IN0, 1	I	Rotary encoder input
108	ILL ON	O	Illumination power control output
109	PW ON	O	System power control output
110	NIL	—	Not used. (Open)

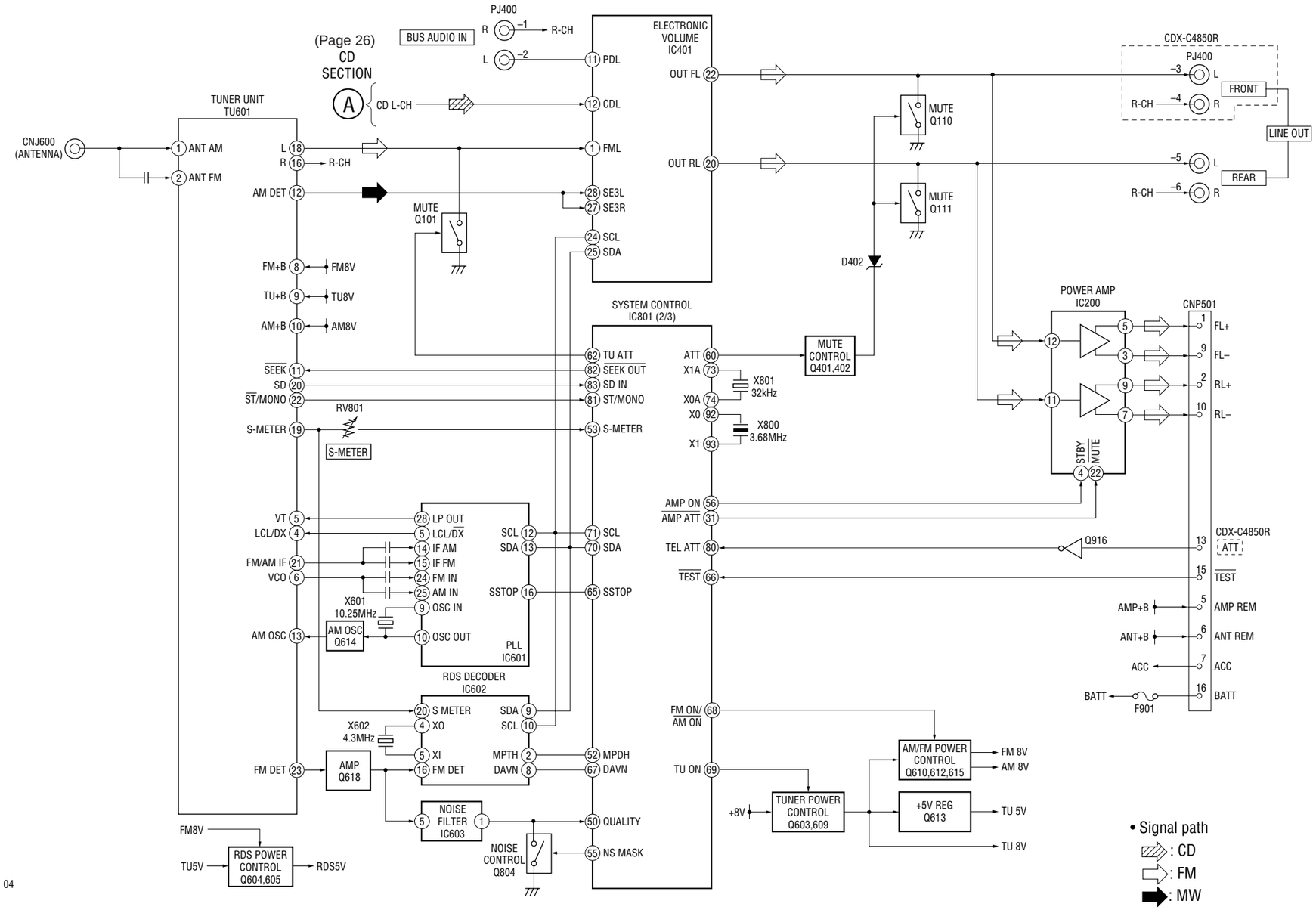
Pin No.	Pin Name	I/O	Pin Description
111	ANT REM	O	ANT REMOTE power control output
112	NIL	—	Not used. (Open)
113	CTL2	—	Not used in this set.
114	CD LD	O	Loading motor control output (Loading direction)
115	CD EJ	O	Loading motor control output (Eject direction)
116	$\overline{\text{L SW}}$	I	Sled limit switch detection input
117	$\overline{\text{IN SW}}$/(PH1)	I	Disc insertion detection input
118	$\overline{\text{D SW}}$	I	DOWN switch detection input
119	VSS	—	Ground
120	$\overline{\text{SELF SW}}$/(IN SW)	I	Disc self store detection input

4-2. BLOCK DIAGRAM — CD SECTION —



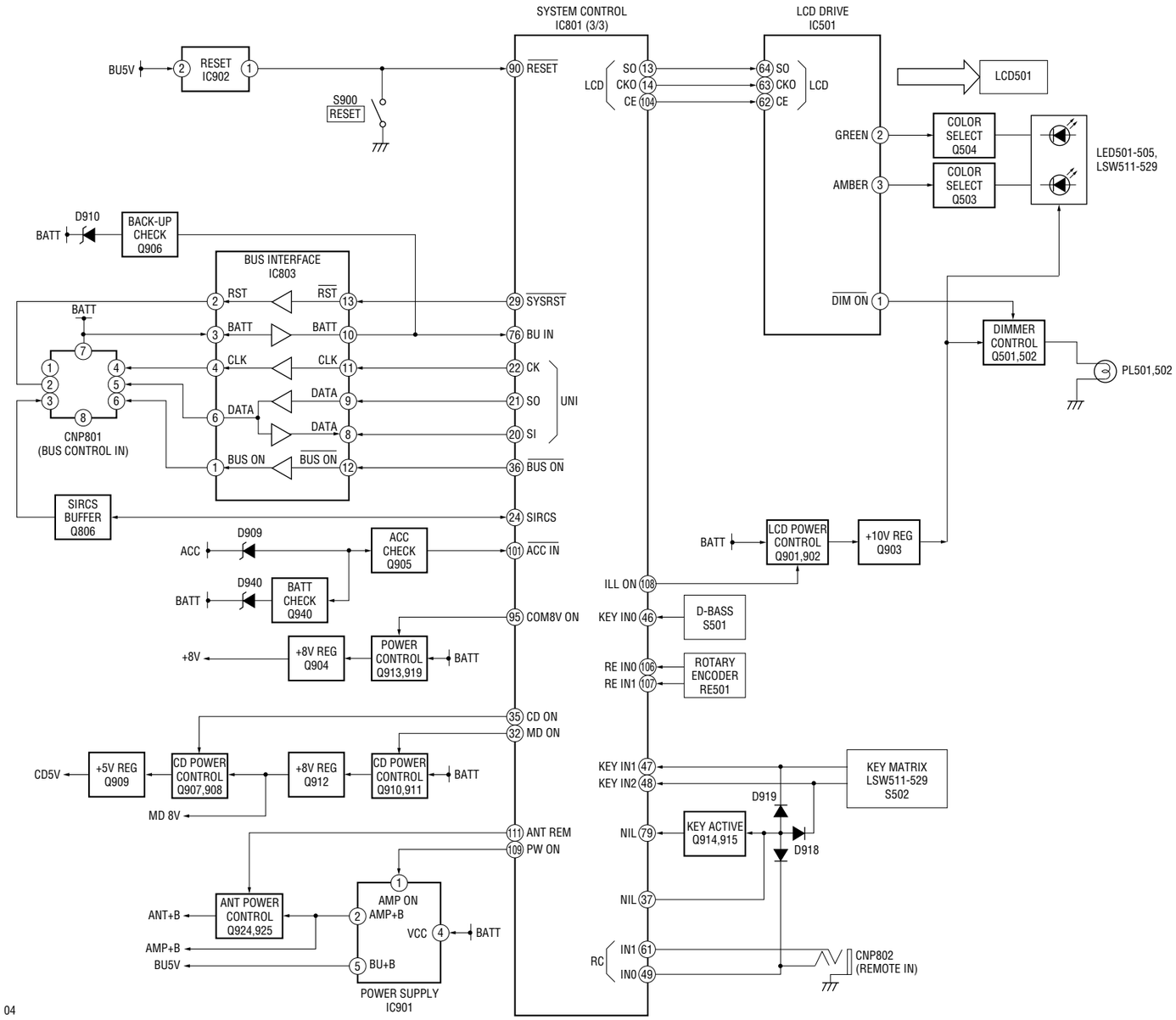
• Signal path
: CD

4-3. BLOCK DIAGRAM — TUNER SECTION —

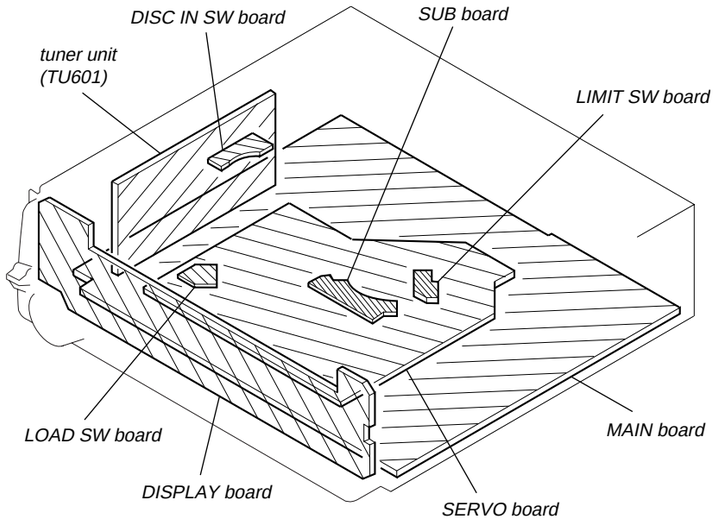


04

4-4. BLOCK DIAGRAM — DISPLAY SECTION —



4-5. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM
  ➡ : MW
  ⇨ : CD
- Abbreviation
  G : German model.

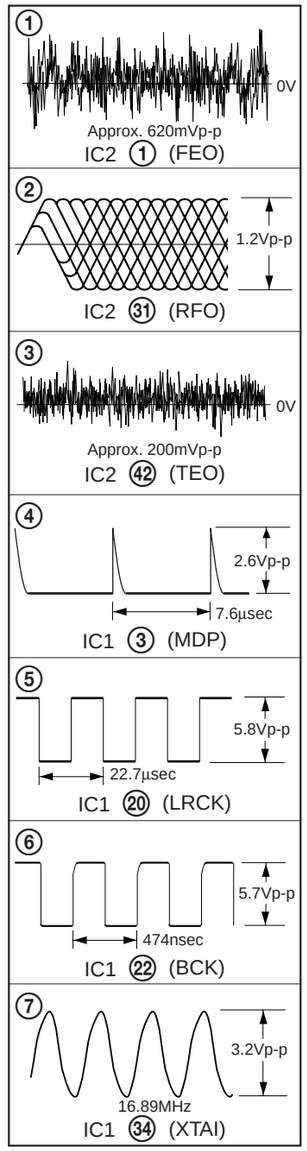
for printed wiring boards:

- o——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ○ : Through hole.
- ▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side (Side B): Parts on the pattern face side seen from the pattern face are indicated.
Parts face side (Side A): Parts on the parts face side seen from the parts face are indicated.

- Abbreviation
  G : German model.

• Waveforms (MODE:PLAY)



4-6. PRINTED WIRING BOARDS — CD MECHANISM SECTION —

【SERVO BOARD】

【PICK-UP FLEXIBLE BOARD】
1-659-881-11

OPTICAL PICK-UP KSS-521A

【DISC IN SW BOARD】
1-659-836-11 (12)

【LIMIT SW BOARD】
1-659-835-12 (12)

【LOAD SW BOARD】
1-659-837-11 (12)

【SUB BOARD】

【MOTOR FLEXIBLE BOARD】
1-659-880-11
1-659-834-11 (12)

1 MAIN BOARD CNP700 (Page 39)

M903 (LOADING)

M902 (SLED)

M901 (SPINDLE)

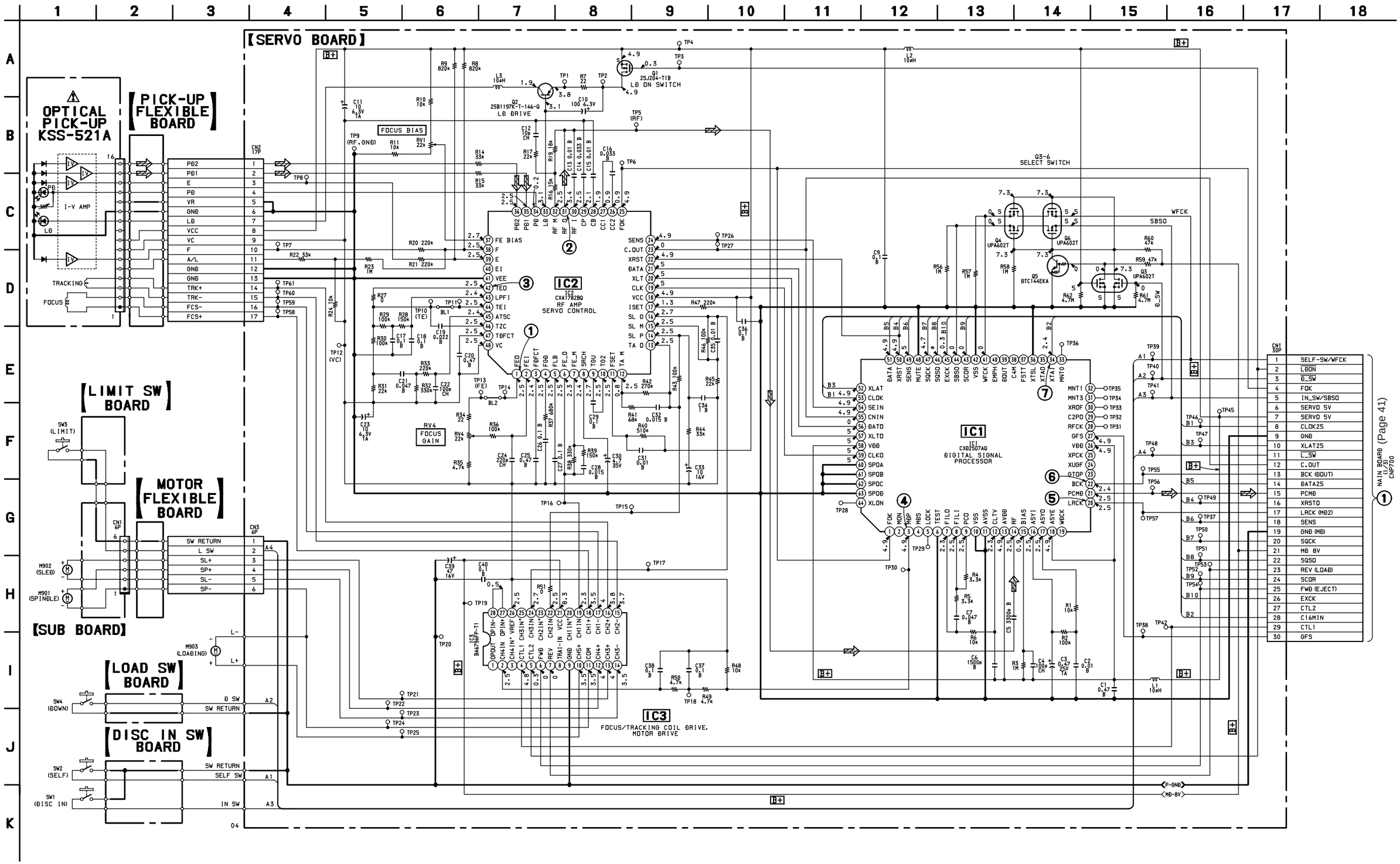
1-663-953-12 (12)

• **Semiconductor Location**

Ref. No.	Location
IC1	D-3
IC2	E-5
Q1	F-5
Q2	F-6
Q3	F-2
Q4	F-2
Q5	F-2
Q6	F-3

4-7. SCHEMATIC DIAGRAM — CD MECHANISM SECTION —

• Refer to page 32 for Waveforms.
• Refer to page 51 for IC Block Diagrams.



Note:

- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  ∗ : Impossible to measure

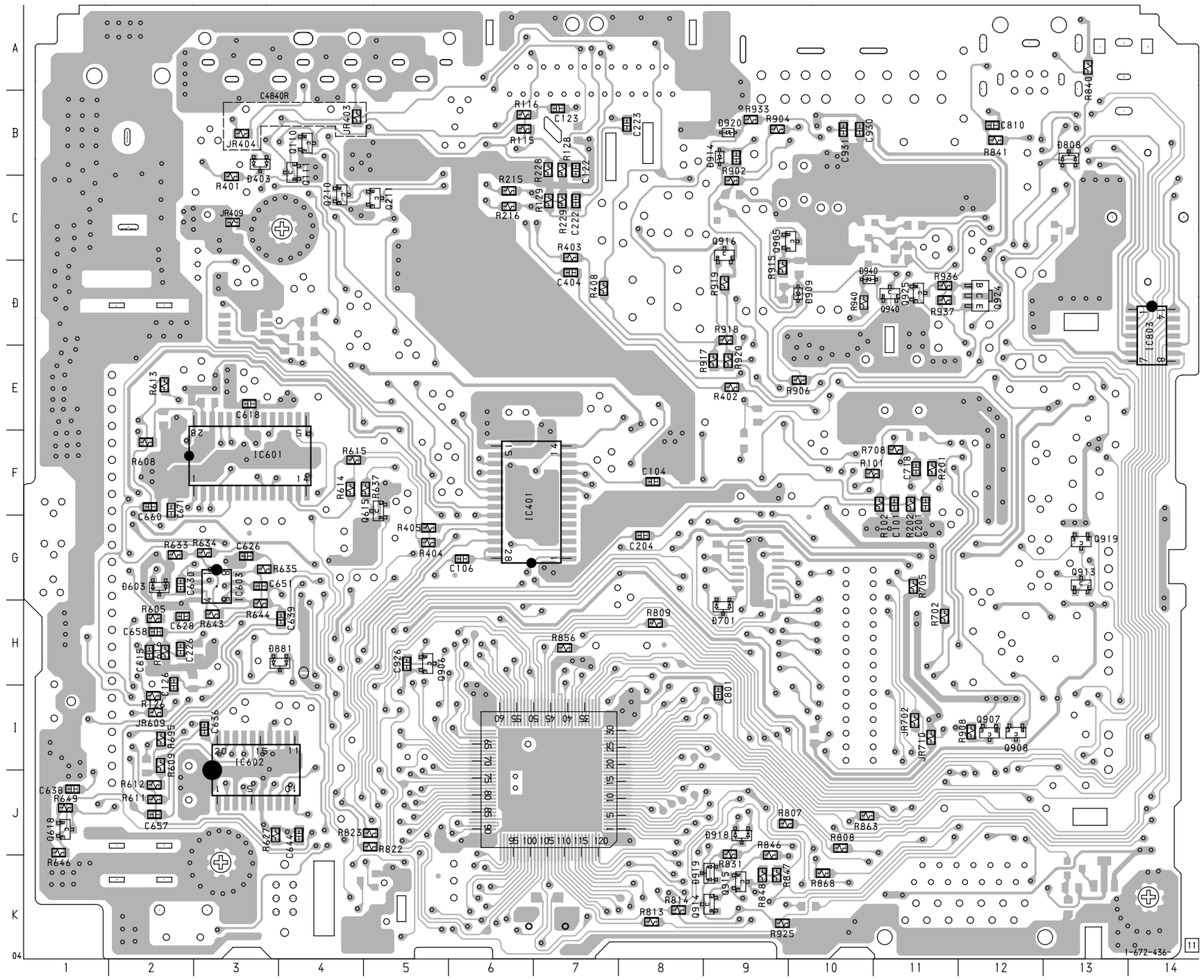
4-8. PRINTED WIRING BOARD — MAIN SECTION —

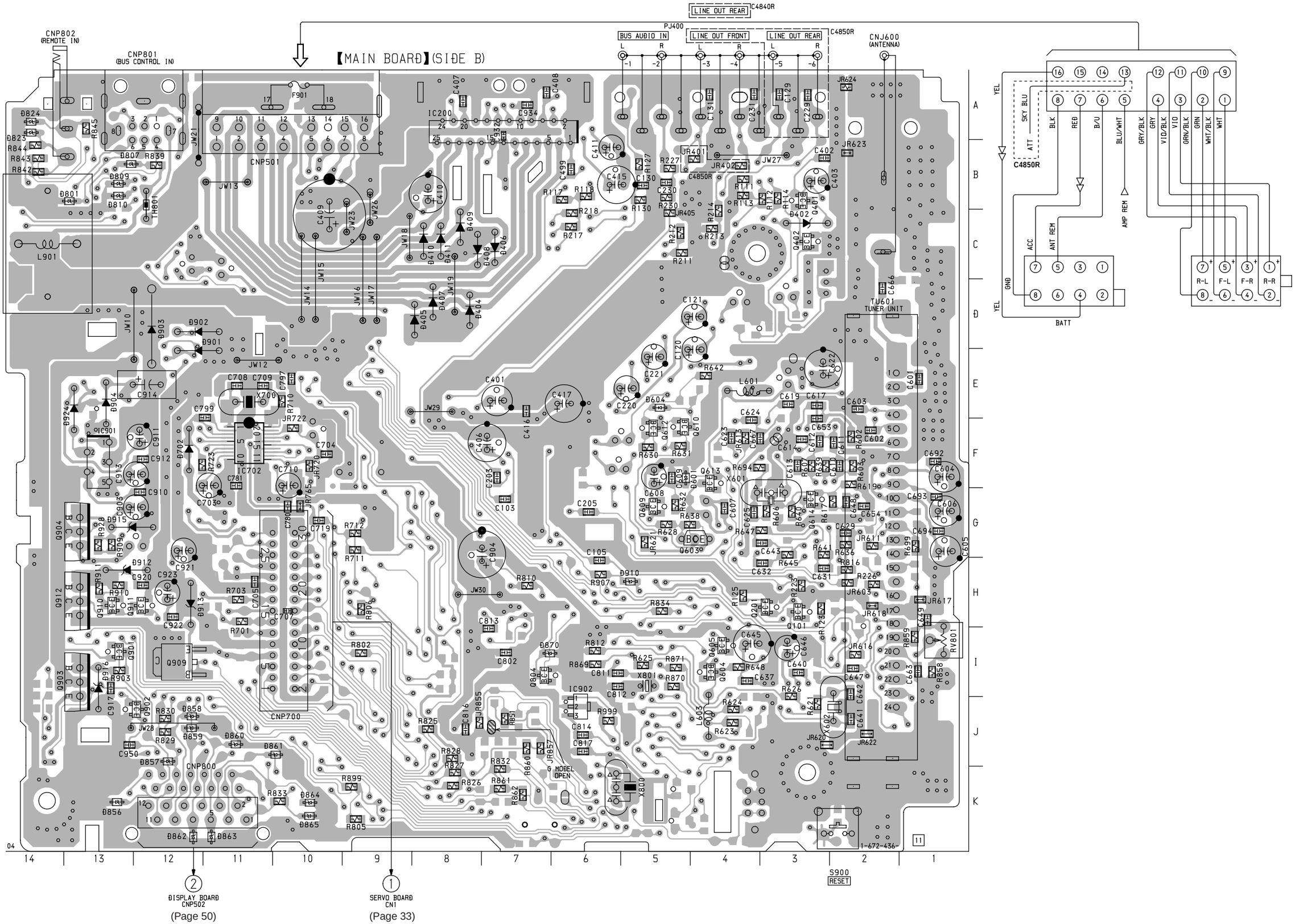
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
(D402)	C-3	IC401	F-6
D403	B-3	IC601	F-3
(D404)	D-8	IC602	I-3
(D405)	D-8	IC603	G-3
(D406)	C-7	(IC702)	F-11
(D407)	D-8	IC703	G-9
(D408)	C-8	IC801	J-7
(D409)	C-8	IC803	D-14
(D410)	C-8	(IC901)	F-13
(D411)	C-8	(IC902)	J-6
(D601)	F-5		
D603	G-2	(Q101)	H-3
(D604)	E-5	Q110	B-4
D701	H-9	Q111	B-4
(D702)	F-12	(Q201)	H-3
(D801)	B-13	Q210	C-4
(D807)	B-13	Q211	C-5
D808	B-13	(Q401)	B-3
(D809)	B-13	(Q402)	C-3
(D810)	B-13	(Q603)	G-4
(D823)	A-14	(Q604)	I-4
(D824)	A-14	(Q605)	I-4
(D856)	K-13	(Q608)	K-5
(D857)	J-12	(Q609)	G-5
(D858)	J-12	(Q610)	F-5
(D859)	J-12	(Q612)	F-5
(D860)	J-11	(Q613)	F-4
(D861)	J-10	Q615	F-5
(D862)	K-12	(Q616)	K-5
(D863)	K-11	Q618	J-1
(D864)	K-10	(Q804)	I-7
(D865)	K-10	(Q901)	I-13
(D870)	I-7	(Q902)	J-12
D881	H-4	(Q903)	I-13
(D901)	E-12	(Q904)	G-13
(D902)	D-12	Q905	C-9
(D903)	D-12	Q906	H-5
(D904)	E-13	Q907	I-12
D909	D-10	Q908	I-12
(D910)	H-5	(Q909)	I-12
(D912)	H-13	(Q910)	H-13
(D913)	H-12	(Q911)	H-12
D914	B-9	(Q912)	H-13
(D915)	G-13	Q913	G-13
(D916)	J-13	Q914	K-9
D918	J-9	Q915	K-9
D919	K-9	Q916	C-9
D920	B-9	Q919	G-13
(D924)	E-13	Q924	D-12
D940	D-11	Q925	D-11
		Q940	D-11
(IC200)	A-8		

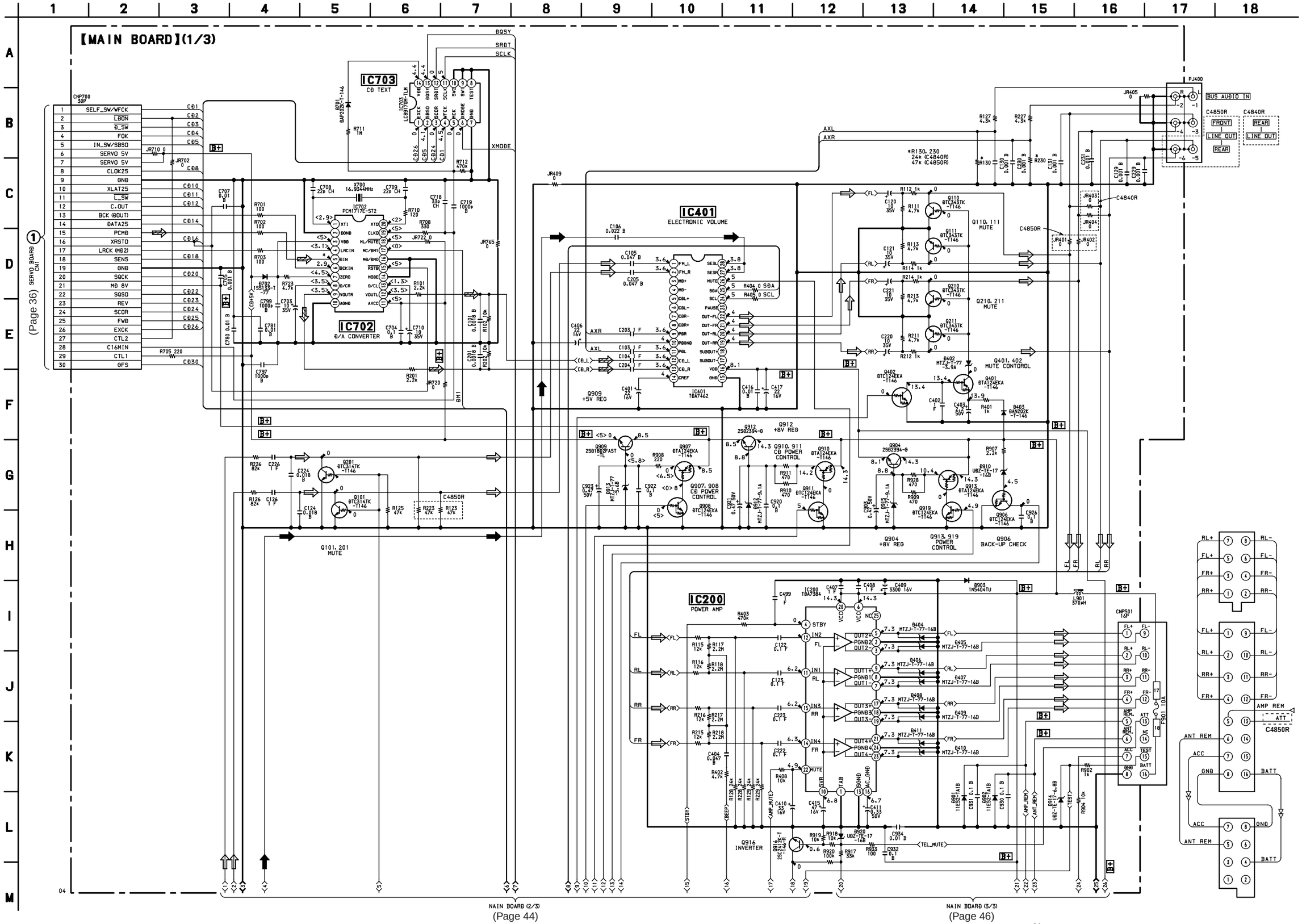
( ) : SIDE B

【MAIN BOARD】(SIDE A)




【MAIN BOARD】(SIDE B)
CNP802 (REMOTE IN)
CNP801 (BUS CONTROL IN)
PJ400
BUS AUDIO IN
LINE OUT FRONT
LINE OUT REAR
C4840R
C4850R
CNJ600 (ANTENNA)
CNP501
CNP700
CNP800
IC200
IC702
TU601 TUNER UNIT
L901
F901
TH801
X700
X801
X800
S900 RESET
G MODEL OPEN
DISPLAY BOARD CNP502 (Page 50)
SERVO BOARD CN1 (Page 33)
YEL
SKY BLU
ATT
BLK
RED
B/U
BLU/WHT
GRY/BLK
GRY
VIO/BLK
VIO
GRN/BLK
GRN
WHT/BLK
WHT
ACC
ANT REM
AMP REM
GND
BATT
R-L
F-L
F-R
R-R

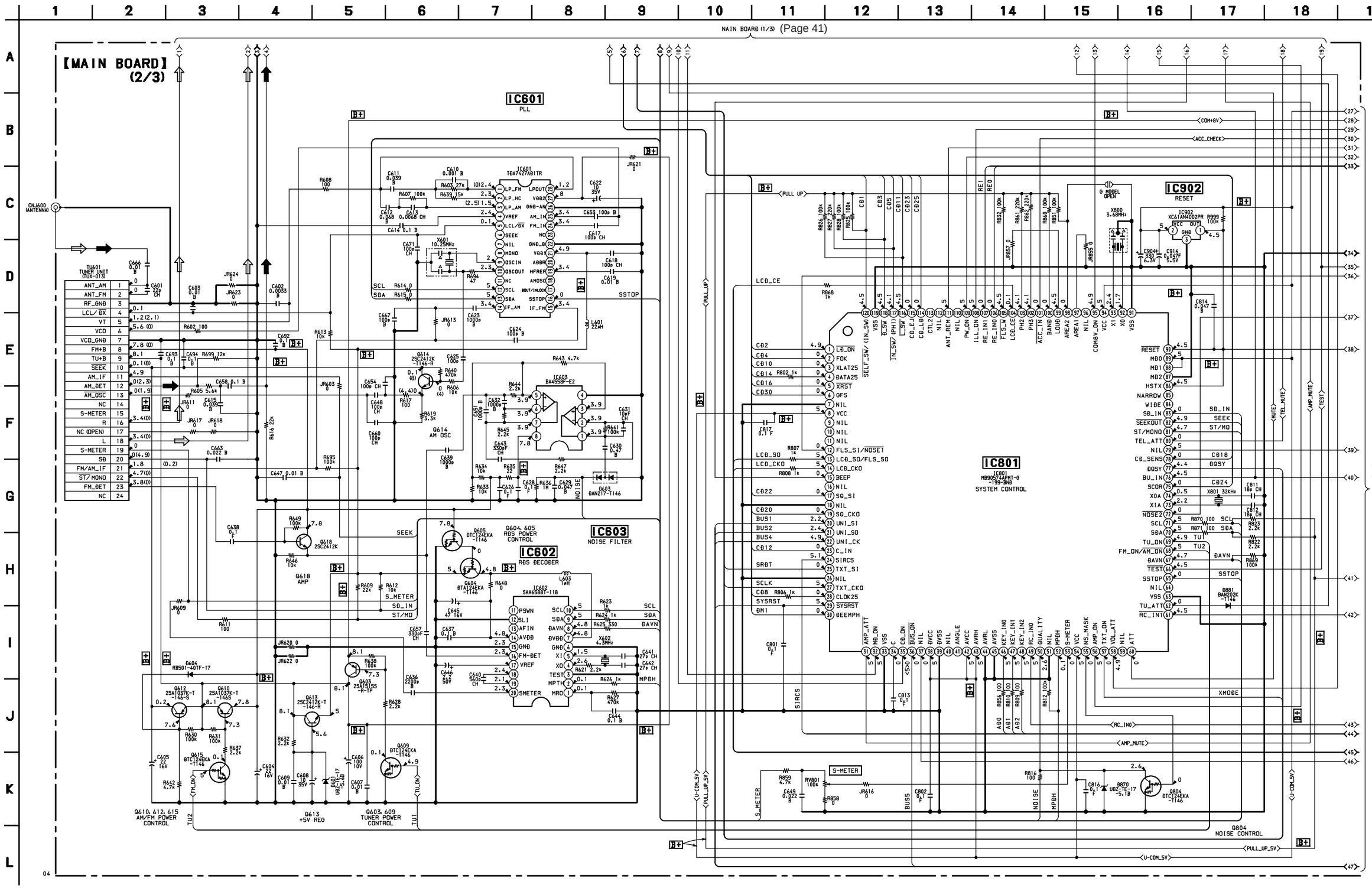
4-9. SCHEMATIC DIAGRAM — MAIN SECTION (1/3) — • Refer to page 53 for IC Block Diagrams.



Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

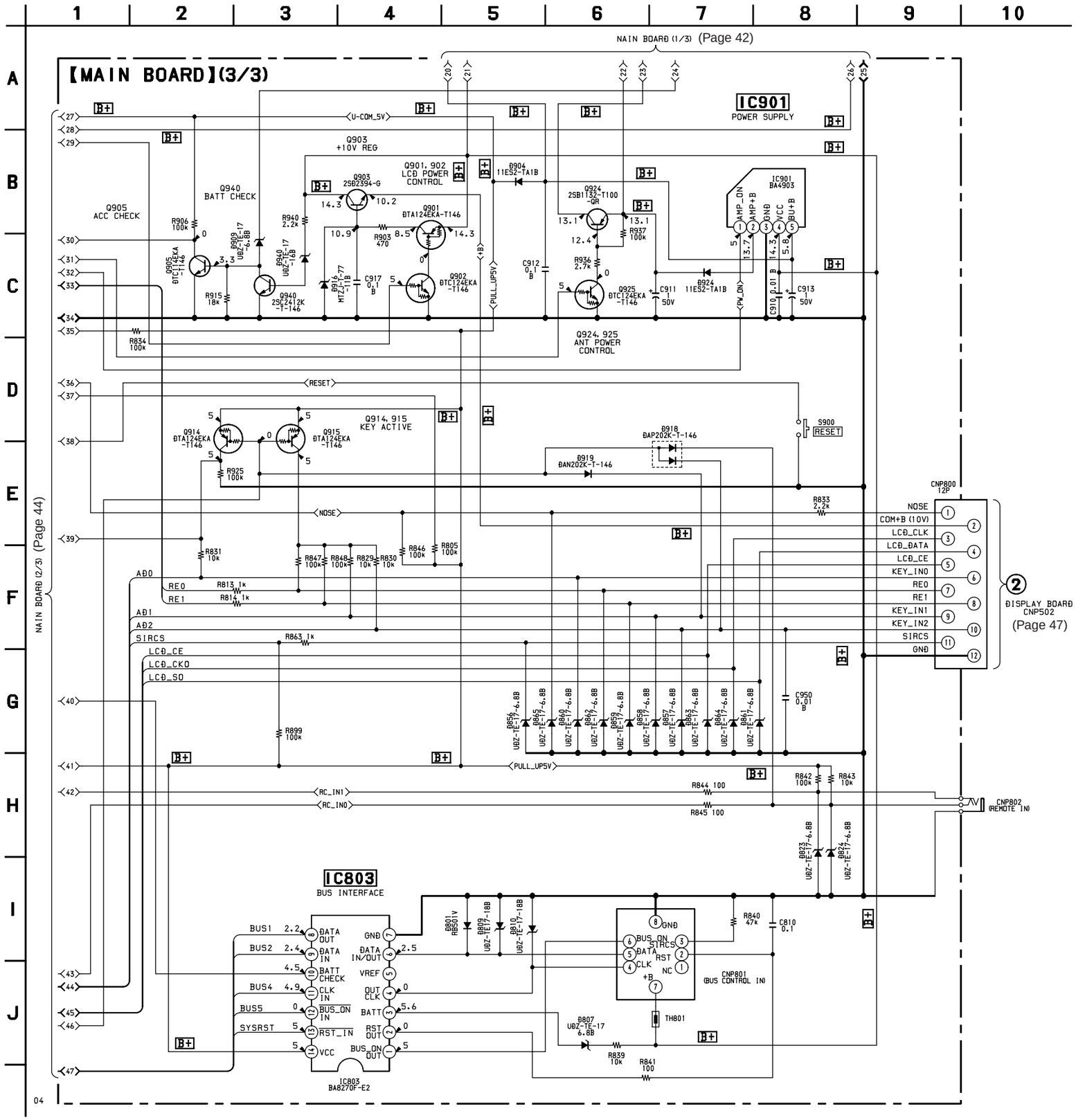
4-10. SCHEMATIC DIAGRAM — MAIN SECTION (2/3) — • Refer to page 51 for IC Block Diagrams.



Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

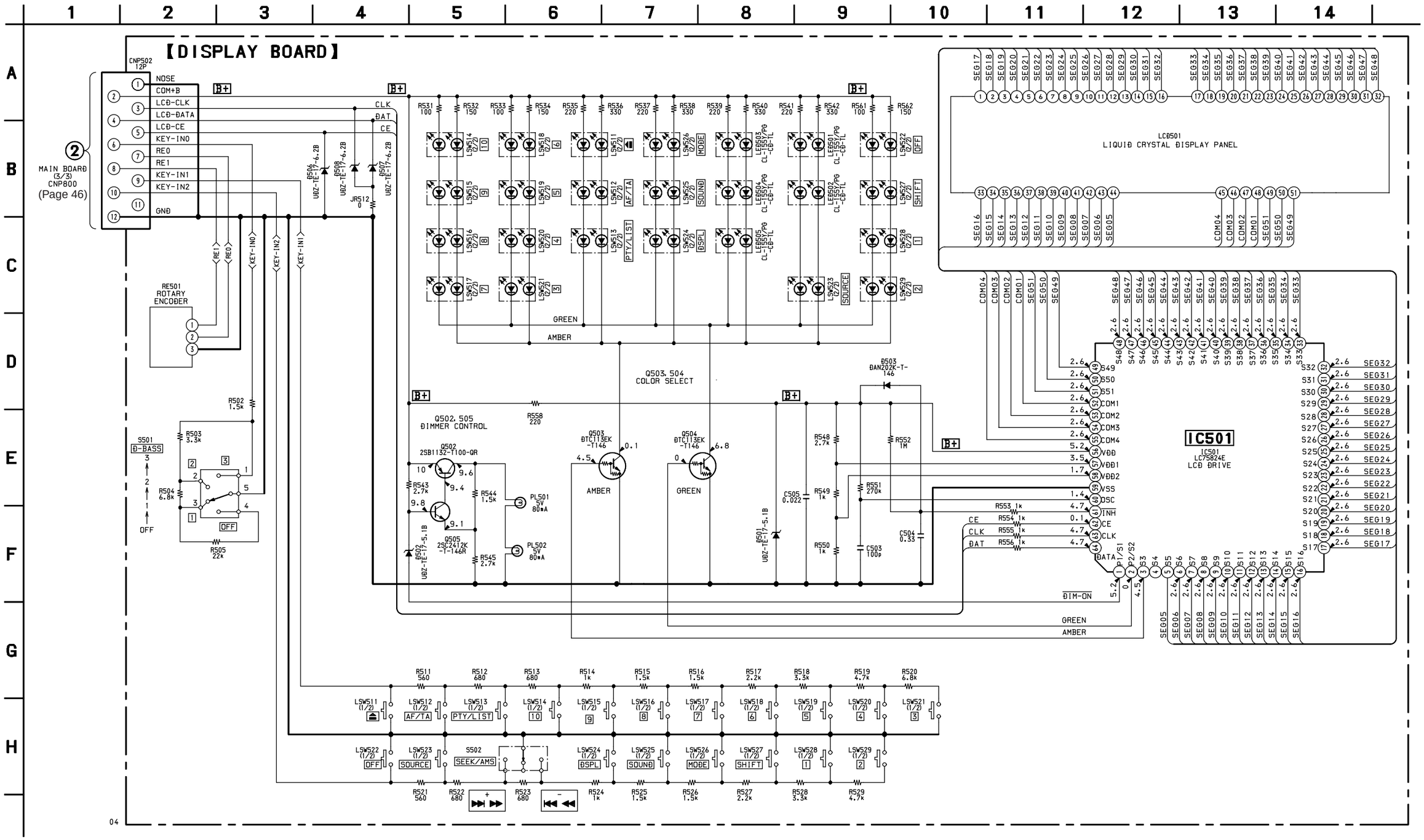
4-11. SCHEMATIC DIAGRAM — MAIN SECTION (3/3) — • Refer to page 53 for IC Block Diagrams.



Note:

- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : CD PLAY

4-12. SCHEMATIC DIAGRAM — DISPLAY SECTION —

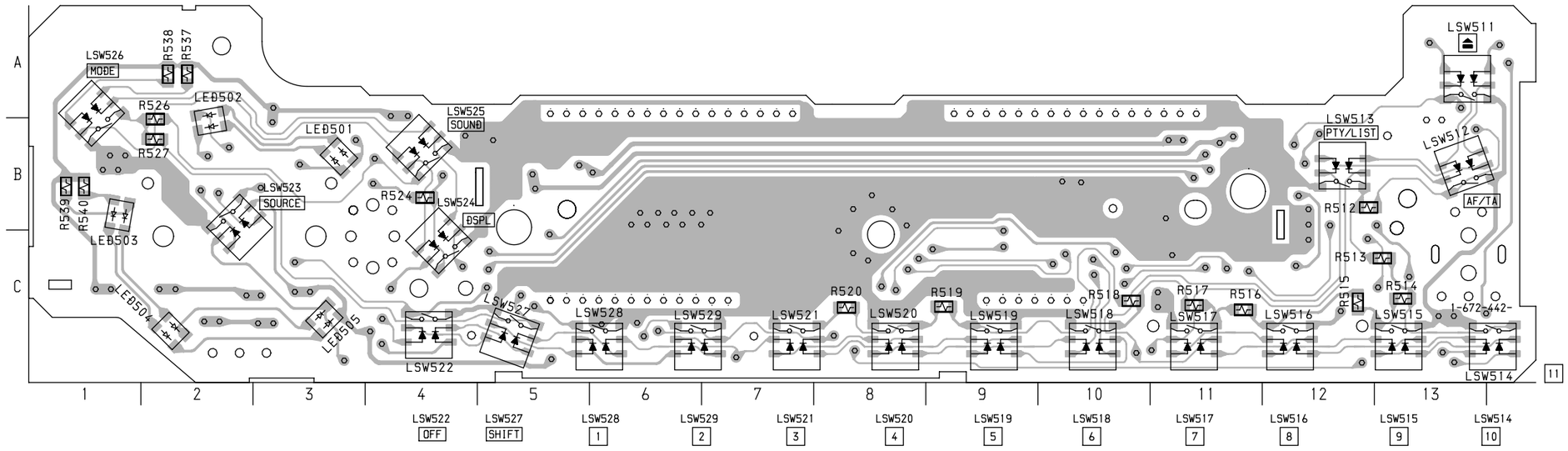


Note:

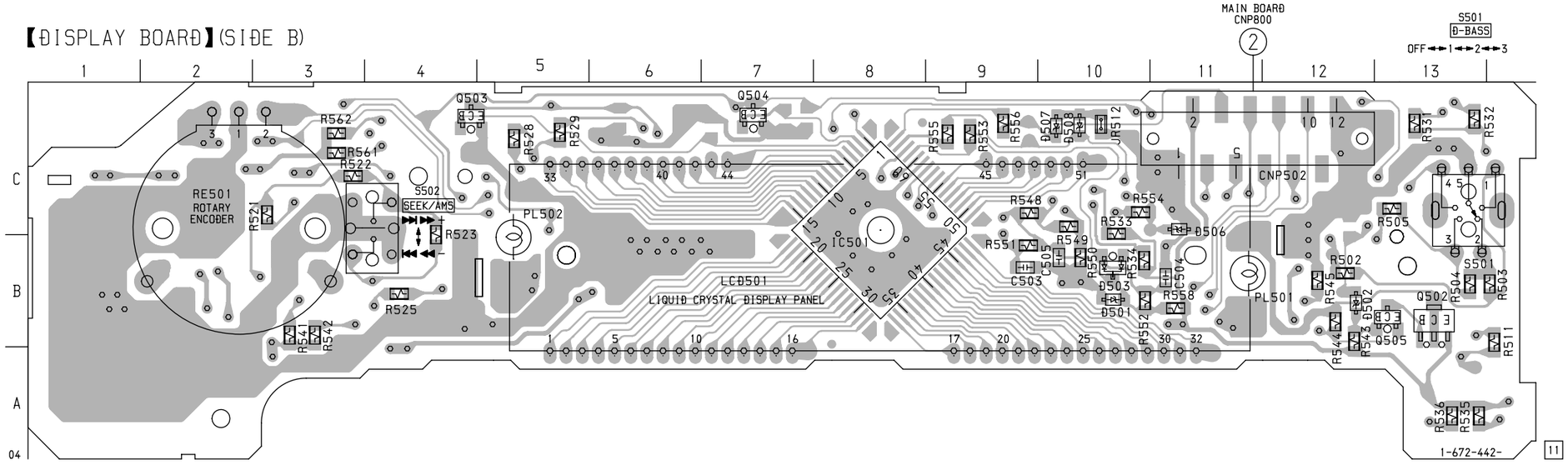
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM

4-13. PRINTED WIRING BOARD — DISPLAY SECTION —

【DISPLAY BOARD】(SIDE A)



【DISPLAY BOARD】(SIDE B)



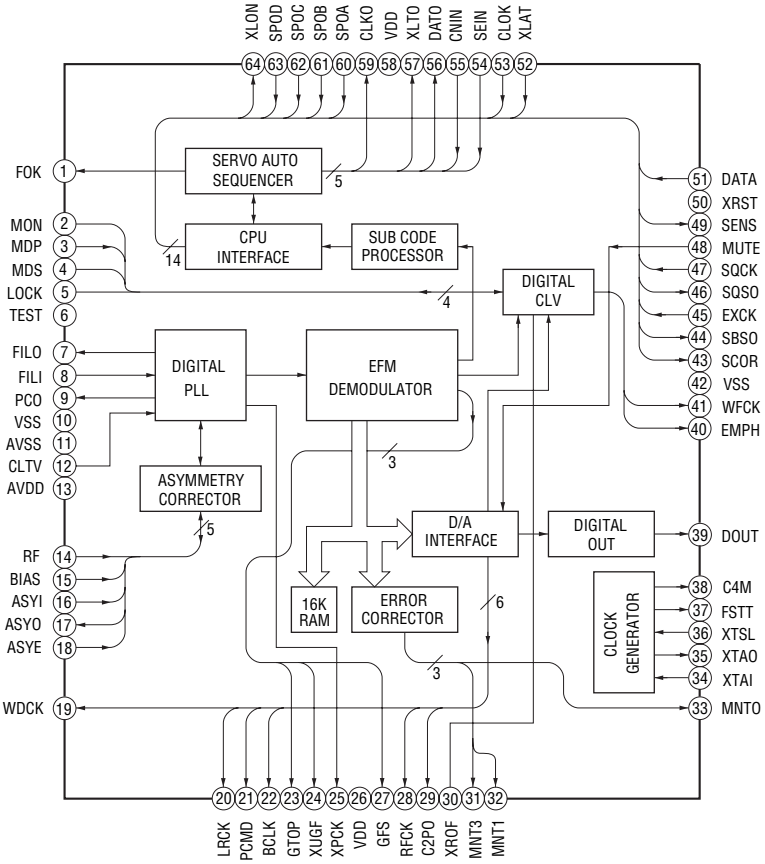
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
(D501)	B-10	LED502	A-2
(D502)	B-12	LED503	B-1
(D503)	B-10	LED504	C-2
(D506)	B-11	LED505	C-3
(D507)	C-10		
(D508)	C-10	(Q502)	B-13
		(Q503)	C-4
(IC501)	B-8	(Q504)	C-7
		(Q505)	B-13
LED501	B-3		

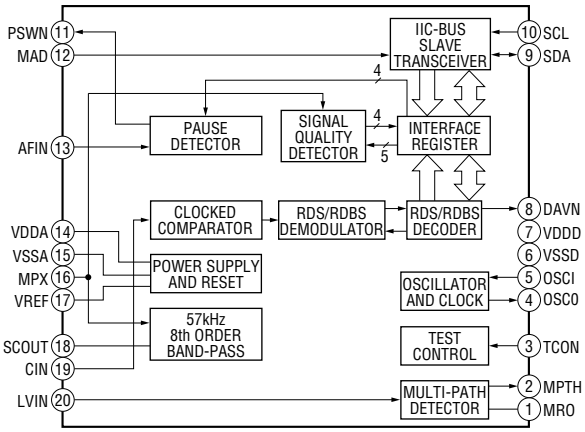
( ) : SIDE B

• **IC Block Diagrams**

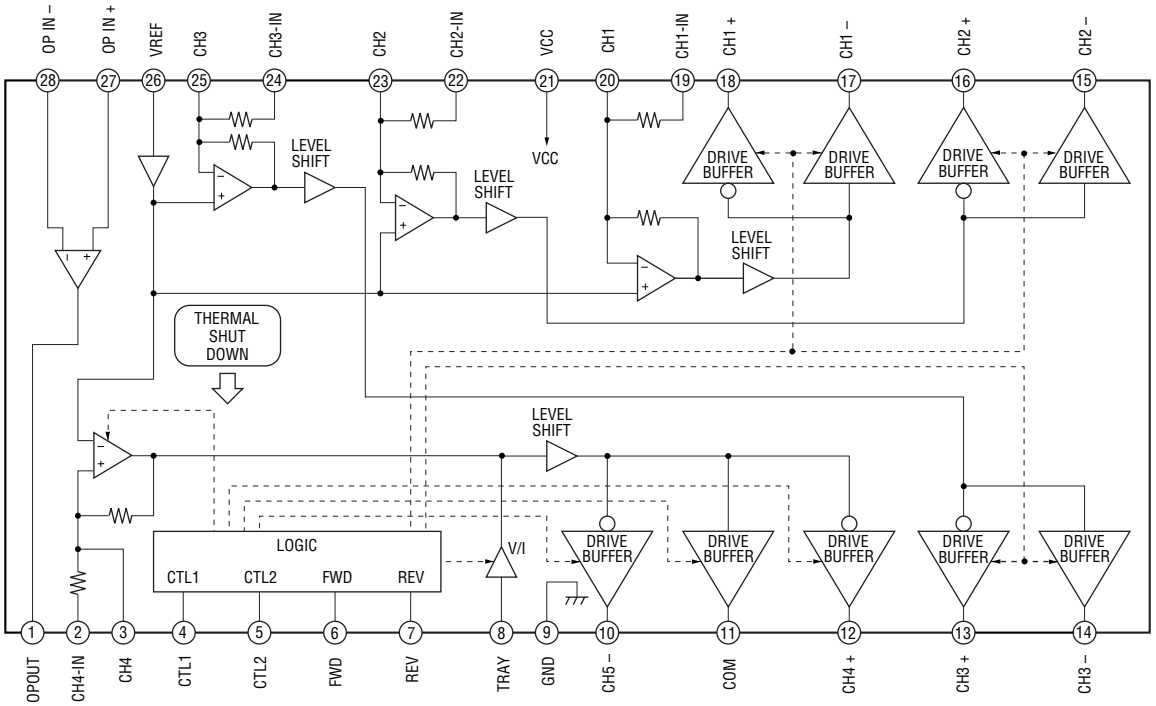
IC1 CXD2507AQ


XLON SPOD SPOC SPOB SPOA CLKO VDD XLTO DATO CNIN SEIN CLOK XLAT
64 63 62 61 60 59 58 57 56 55 54 53 52
SERVO AUTO SEQUENCER
CPU INTERFACE
SUB CODE PROCESSOR
DIGITAL CLV
DIGITAL PLL
EFM DEMODULATOR
ASYMMETRY CORRECTOR
D/A INTERFACE
DIGITAL OUT
16K RAM
ERROR CORRECTOR
CLOCK GENERATOR
FOK MON MDP MDS LOCK TEST FILO FILI PCO VSS AVSS CLTV AVDD RF BIAS ASYI ASYO ASYE WDCK
DATA XRST SENS MUTE SQCK SQSO EXCK SBSO SCOR VSS WFCK EMPH DOUT C4M FSTT XTSL XTAO XTAI MNTO
20 21 22 23 24 25 26 27 28 29 30 31 32
LRCK PCMD BCLK GTOP XUGF XPCK VDD GFS RFCK C2PO XROF MNT3 MNT1

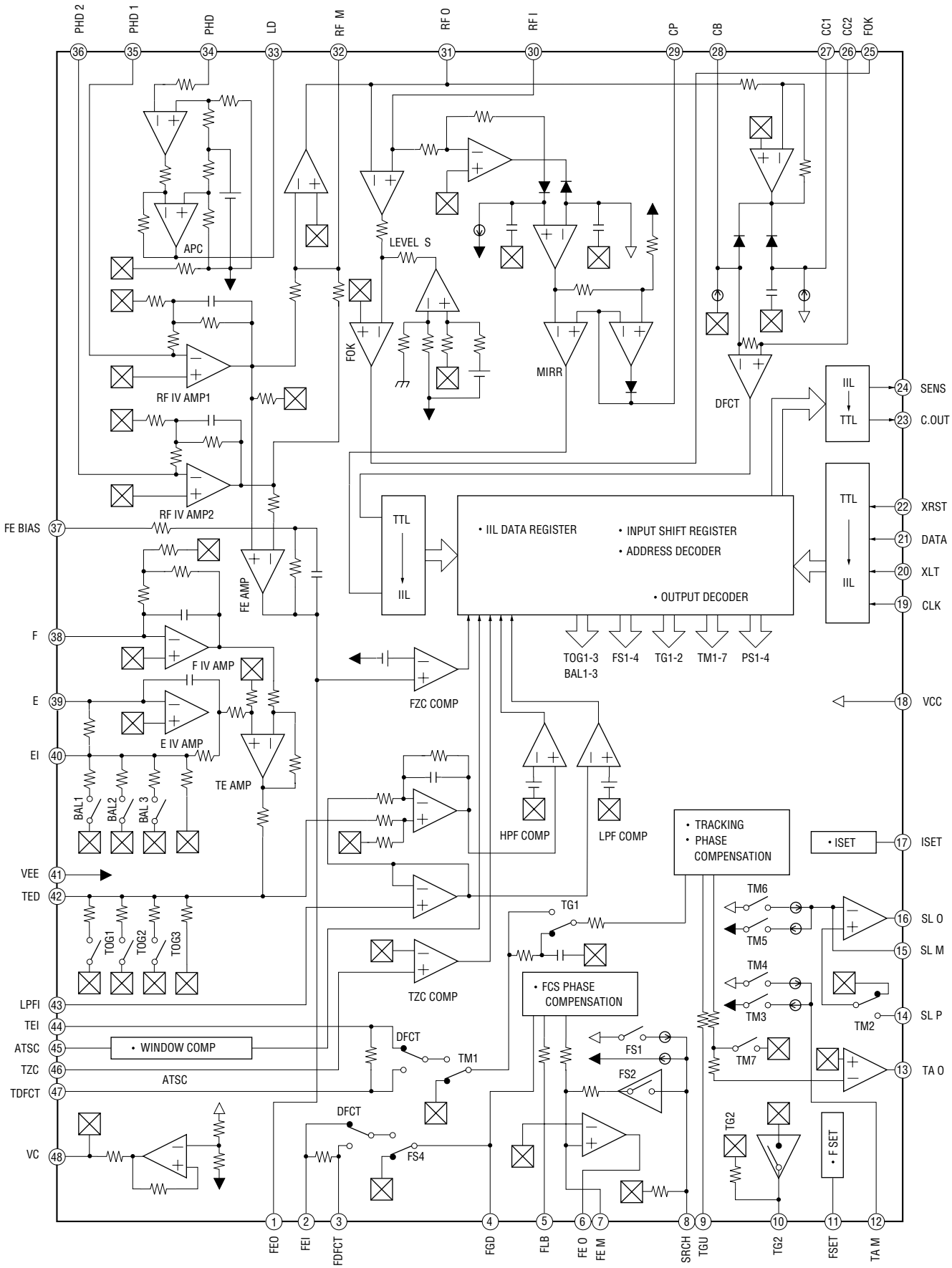
IC602 SAA6588T-118



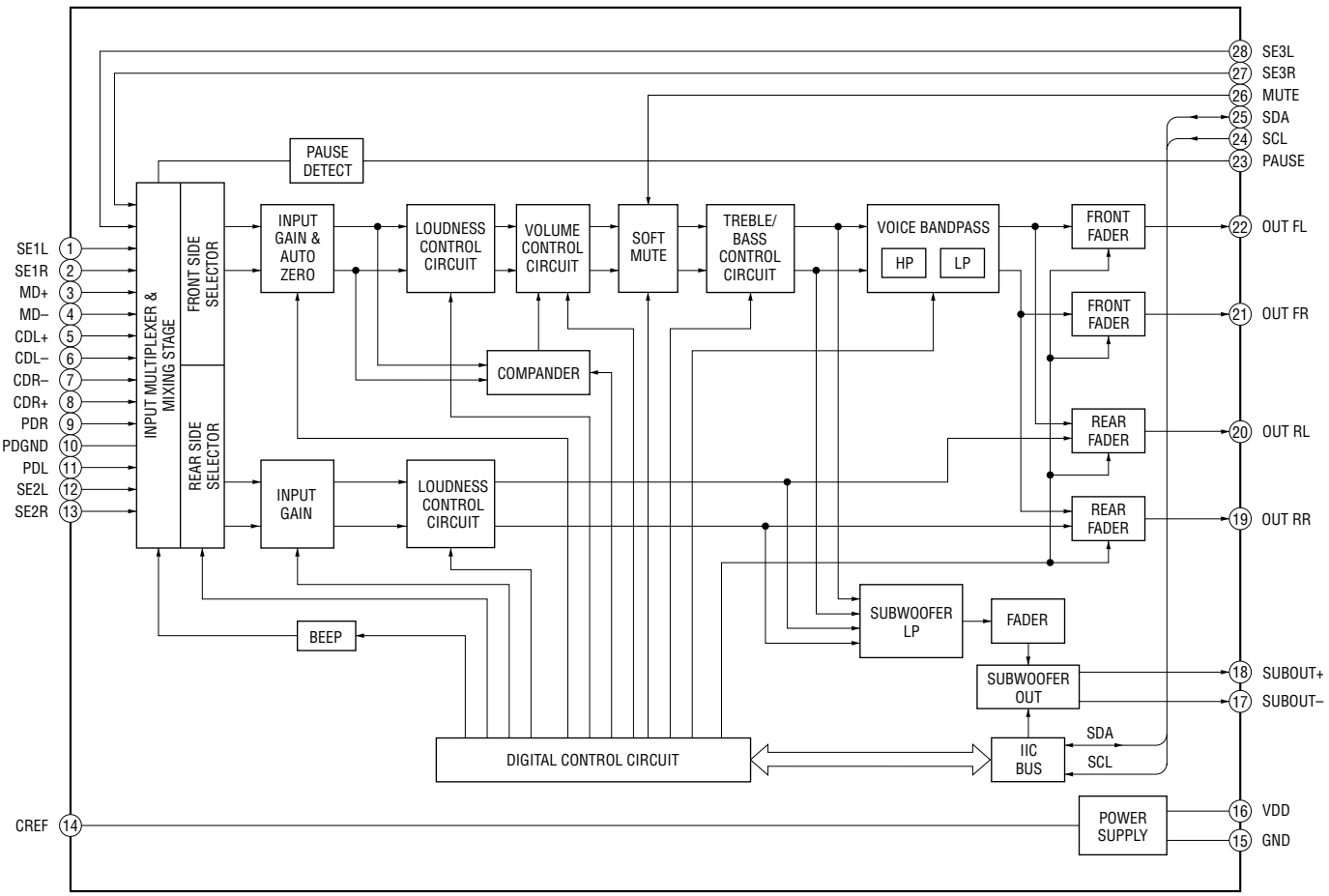
IC3 BA6796FP-T1



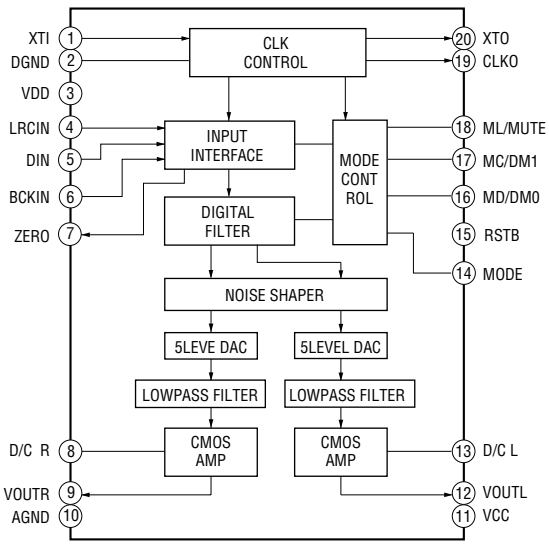
IC2 CXA1782BQ



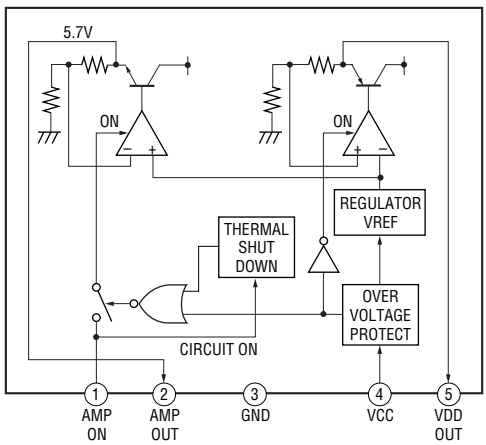
IC401 TDA7462



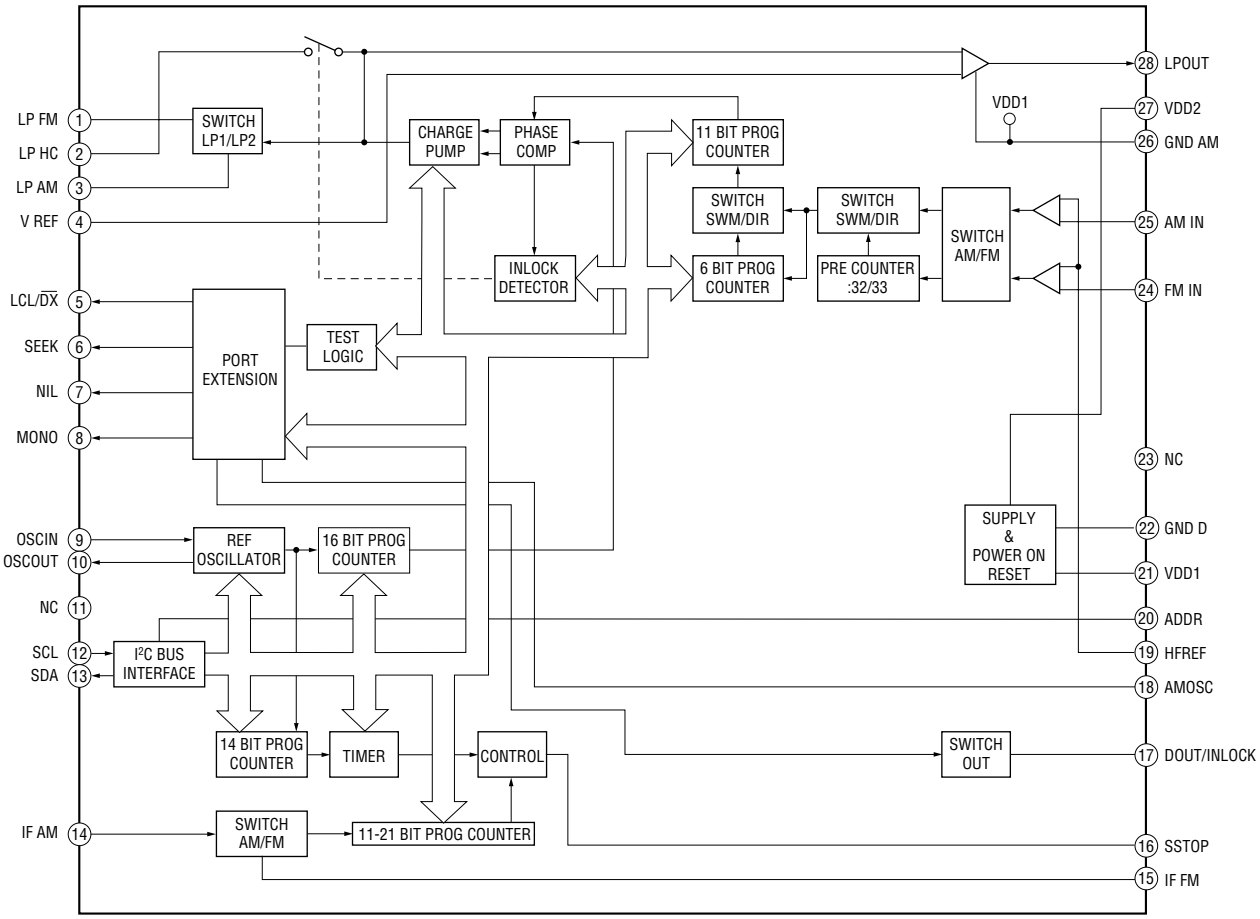
IC702 PCM1717E-ST2



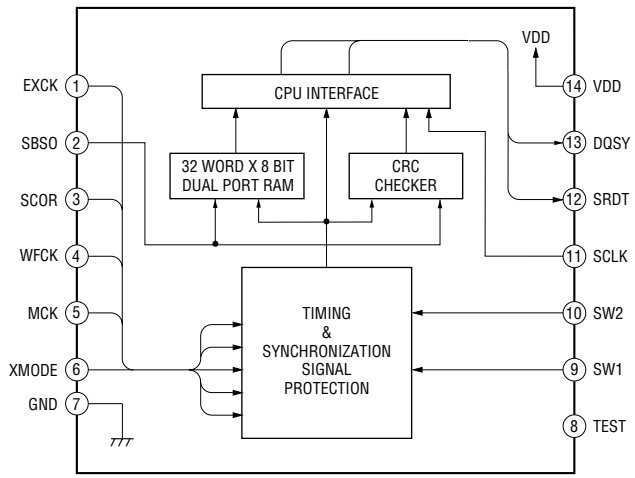
IC901 BA4903



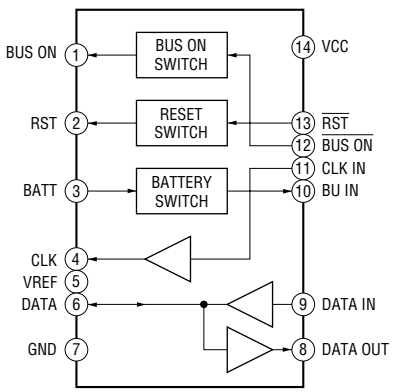
IC601 TDA7427AD1TR



IC703 LC89170M-T



IC803 BA8270F-E2



SECTION 5
EXPLODED VIEWS

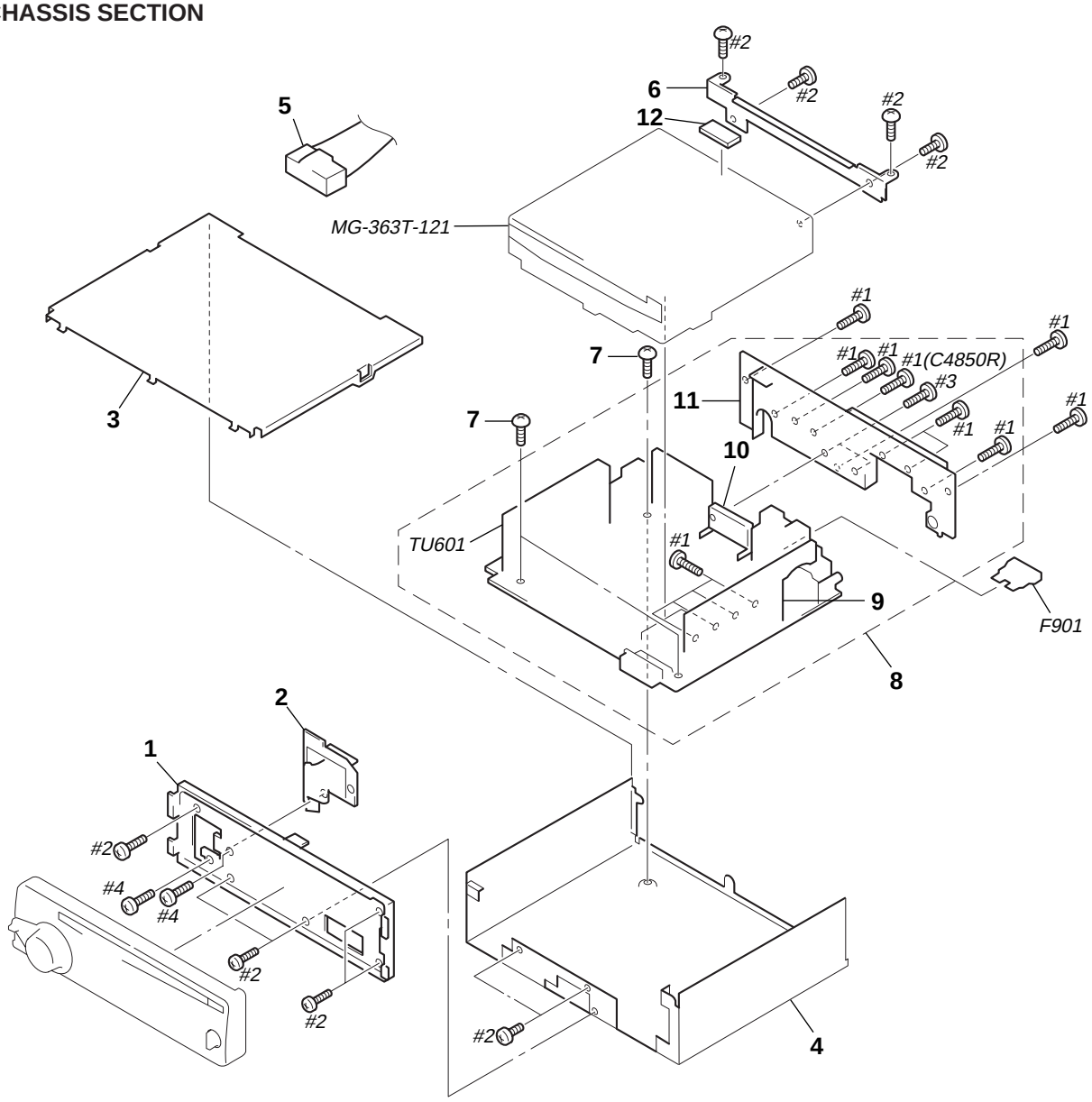
NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ Parts Color ↑ Cabinet's Color
- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

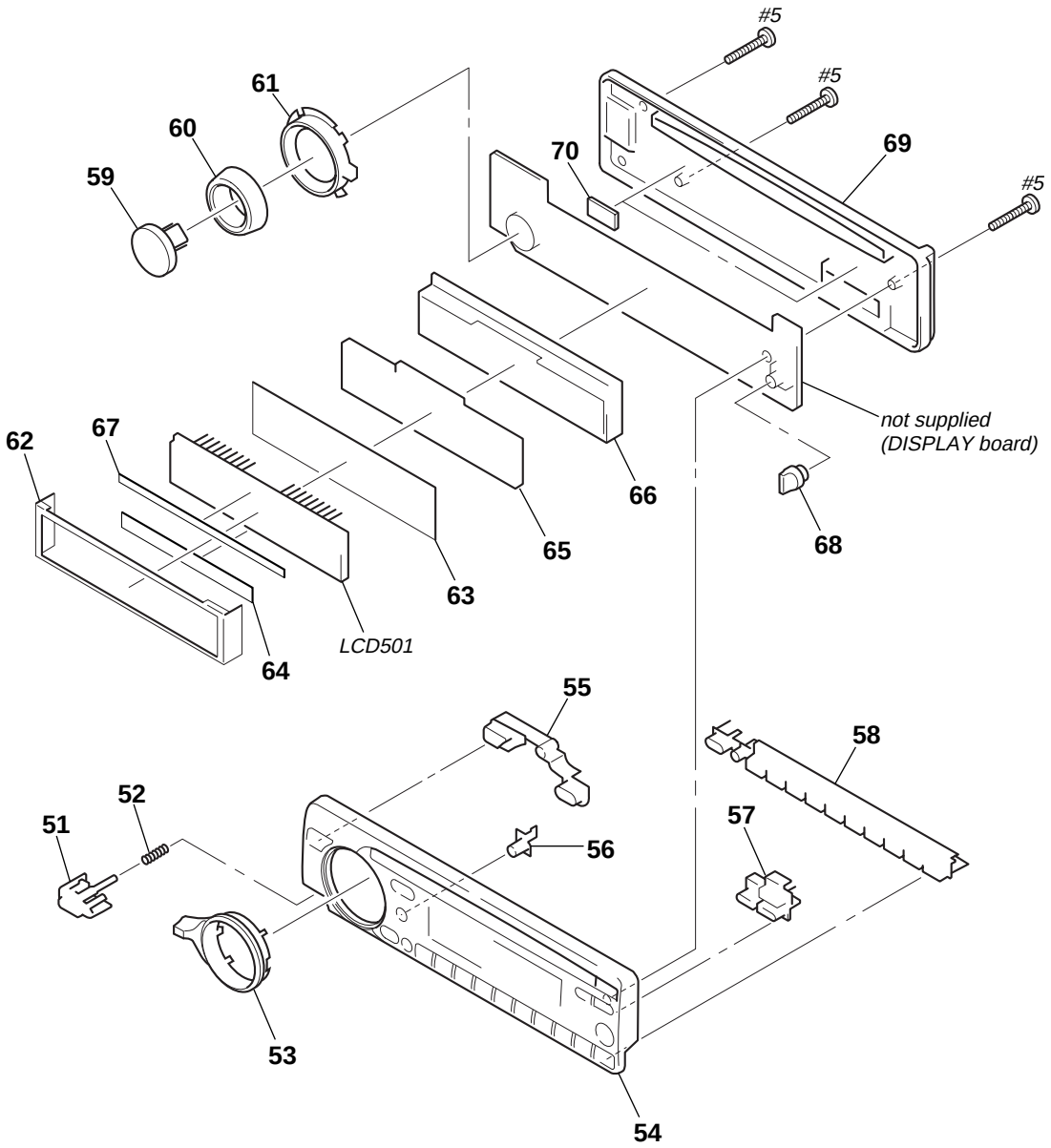
- Abbreviation
  G : German model

5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
1	A-3301-734-A	PANEL (1) ASSY, SUB	
2	X-3367-636-1	LOCK ASSY	
* 3	X-3376-734-1	COVER ASSY	
* 4	3-030-990-01	CHASSIS	
5	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER) (C4840R)	
5	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER) (C4850R)	
* 6	3-030-883-01	BRACKET (MD)	
7	3-915-923-01	SCREW, GROUND POINT	
* 8	A-3294-583-A	MAIN BOARD, COMPLETE (C4850R)	
* 8	A-3294-587-A	MAIN BOARD, COMPLETE (C4840R)	
* 9	3-030-884-01	HEAT SINK (REG)	
* 10	3-030-864-01	BRACET (IC)	
* 11	3-032-204-01	HEAT SINK (C4840R)	
* 11	3-032-204-11	HEAT SINK (C4850R)	
* 12	3-024-285-11	CUSHION (RUBBER)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU601	1-693-440-11	TUNER UNIT	

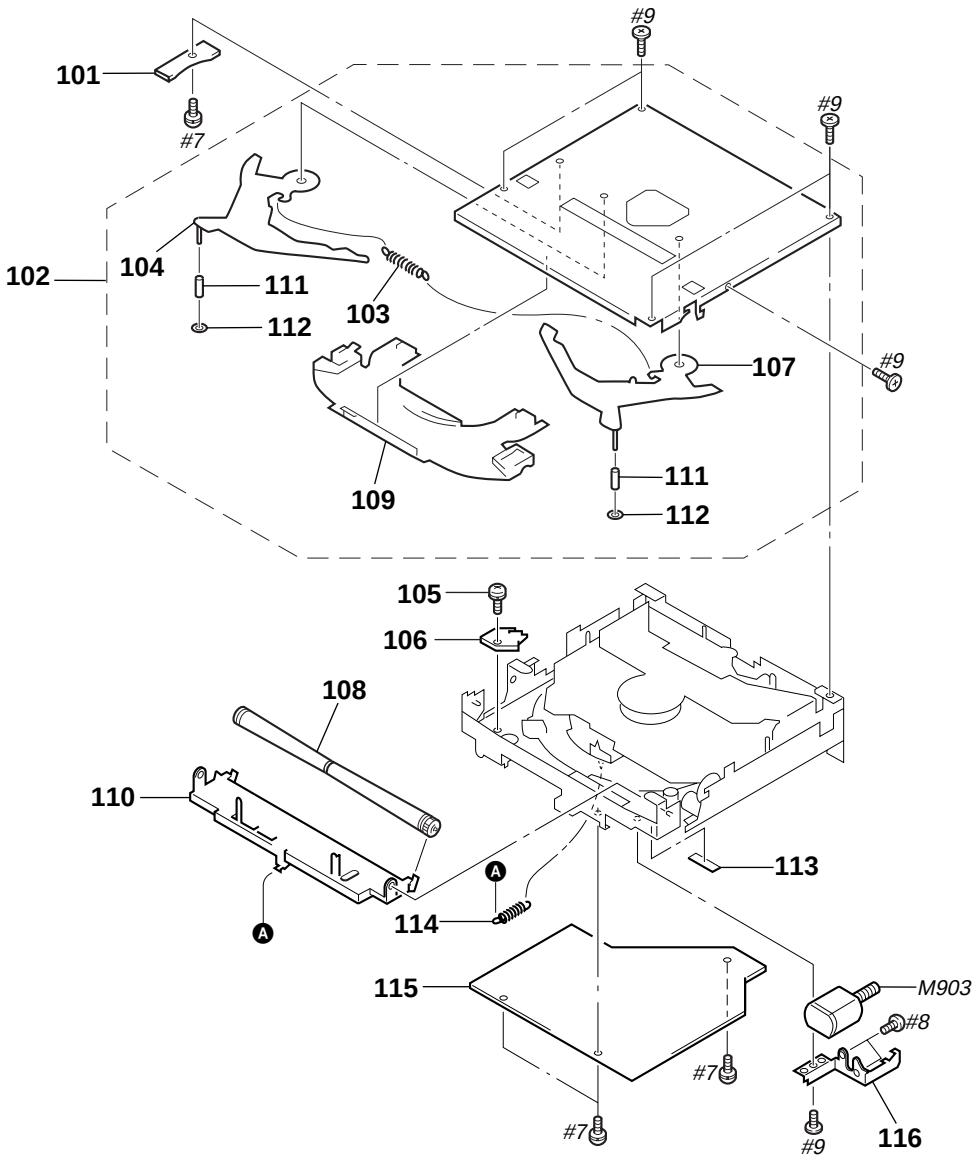
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-030-999-01	BUTTON (RELEASE)	
52	3-935-119-01	SPRING (RELEASE)	
53	3-030-854-01	LEVER (SEEK/AMS) (C4850R)	
53	3-030-854-11	LEVER (SEEK/AMS) (C4840R)	
54	X-3376-790-1	PANEL ASSY, FRONT (C4850R)	
54	X-3376-820-1	PANEL ASSY, FRONT (C4840R)	
55	3-030-998-01	BUTTON (MODE/SOUND)	
56	3-030-992-01	BUTTON (DSPL)	
57	3-030-988-01	BUTTON (CD EJECT)	
58	3-030-987-01	BUTTON (1-10)	
59	3-030-993-01	BUTTON (SOURCE)	
60	3-030-853-01	KNOB (VOL)	

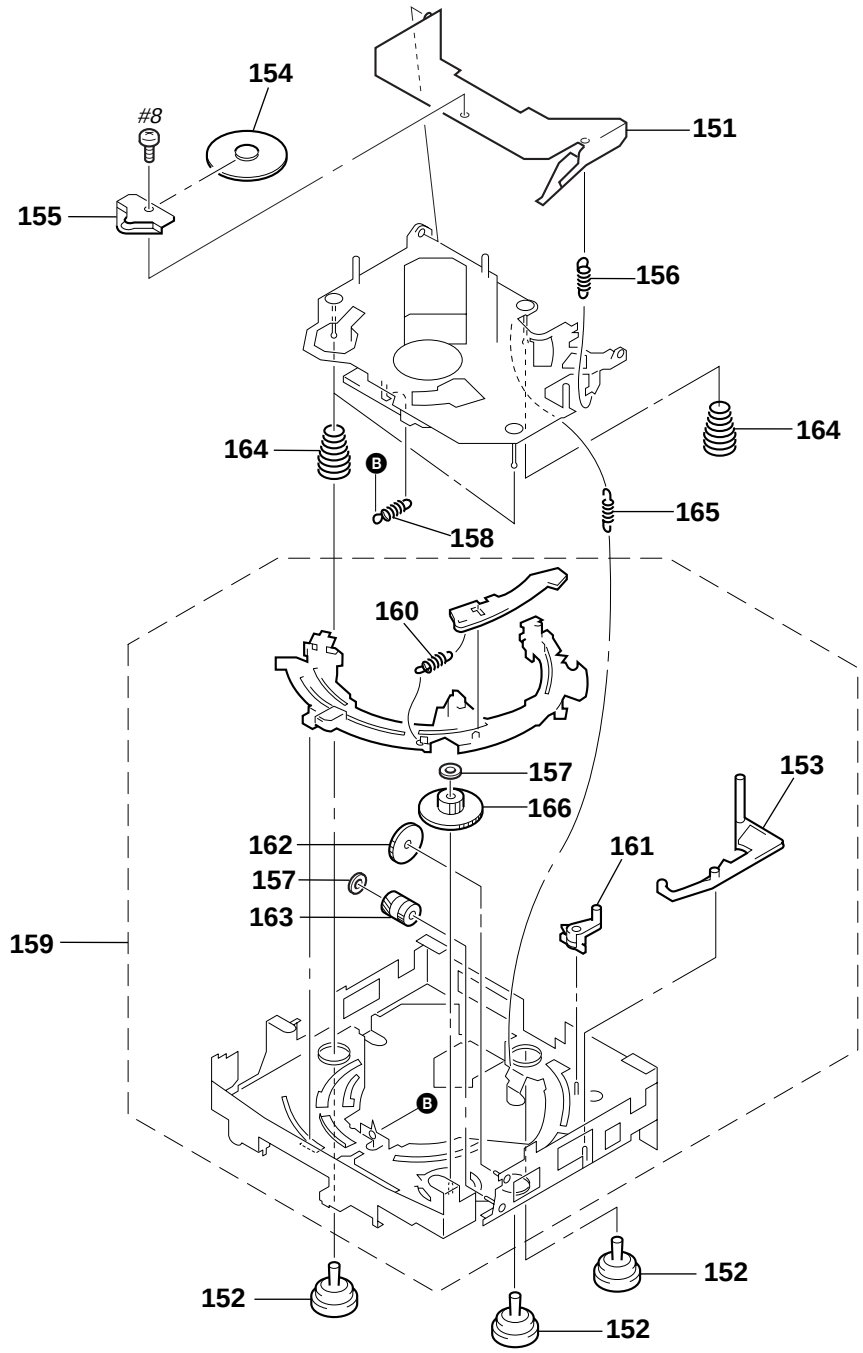
Ref. No.	Part No.	Description	Remark
61	3-030-852-01	RING	
* 62	3-030-994-01	BRACKET (LCD)	
* 63	3-032-289-01	SHEET (DIFFUSION 5)	
* 64	3-032-198-01	SHEET (E)	
* 65	3-030-986-01	PLATE (LCD), LIGHT GUIDE	
* 66	3-030-985-01	HOLDER, LCD	
* 67	3-032-199-01	SHEET (ESD)	
68	3-030-855-01	KNOB (D-BASS)	
69	3-030-982-01	PANEL, FRONT BACK	
* 70	3-030-997-01	SHEET, BACK	
LCD501	1-803-440-11	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1)
(MG-363T-121)



Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISC IN SW BOARD	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), +PS	
* 106	1-659-837-11	LOAD SW BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3301-203-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-04	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3309-694-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)	

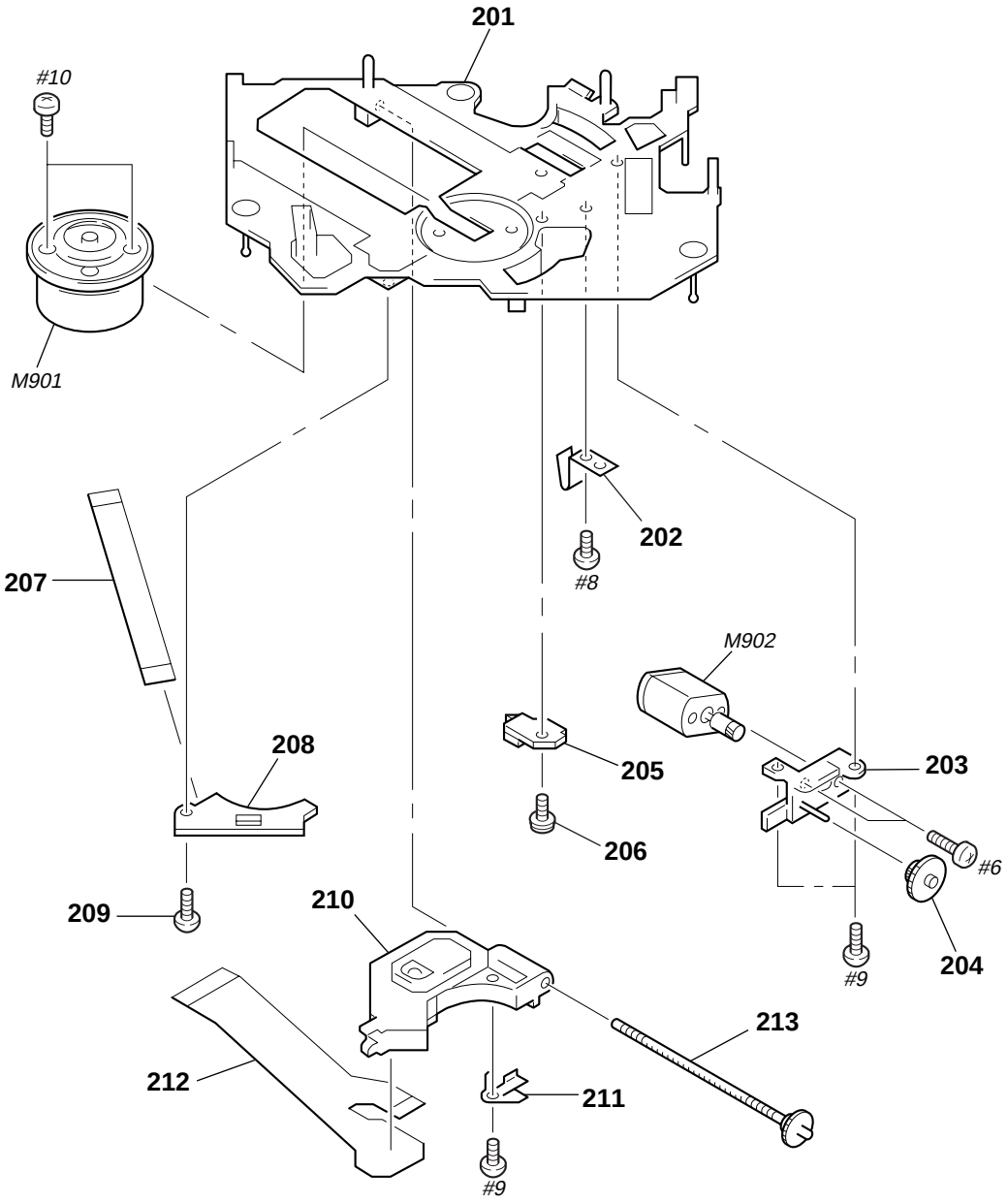
5-4. CD MECHANISM SECTION (2)
(MG-363T-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-018-272-01	WASHER	
158	3-032-483-02	SPRING (KF1), TENSION	

Ref. No.	Part No.	Description	Remark
159	A-3277-802-C	CHASSIS (M) ASSY	
160	3-939-883-01	SPRING (TR), TENSION	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-11	WHEEL (U), WORM	
164	3-931-898-01	SPRING (FL), COMPRESSION	
165	3-032-484-01	SPRING (KR1), TENSION	
166	3-014-727-01	WHEEL (LW), WORM	

5-5. CD MECHANISM SECTION (3)
(MG-363T-121)



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 201	X-3374-022-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT SW BOARD	
206	3-338-737-01	SCREW (2X3), +PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠ 210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)	

DISC IN SW **DISPLAY**

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

When indicating parts by reference number, please include the board.

- Abbreviation
  G : German model

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISC IN SW BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-21	SWITCH, PUSH (DISC IN)			
SW2	1-572-288-21	SWITCH, PUSH (SELF)			
**********					
		DISPLAY BOARD			
		**********			
*	3-030-985-01	HOLDER, LCD			
*	3-030-986-01	PLATE (LCD), LIGHT GUIDE			
*	3-030-994-01	BRACKET (LCD)			
*	3-032-198-01	SHEET (E)			
*	3-032-199-01	SHEET (ESD)			
*	3-032-289-01	SHEET (DIFFUSION 5)			
		< CAPACITOR >			
C503	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C504	1-110-501-11	CERAMIC CHIP	0.33uF	10% 16V	
C505	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V	
		< CONNECTOR >			
CNP502	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D501	8-719-976-99	DIODE DTZ5.1B			
D502	8-719-976-99	DIODE DTZ5.1B			
D503	8-719-914-43	DIODE DAN202K			
D506	8-719-105-99	DIODE RD6.2M-B1			
D507	8-719-105-99	DIODE RD6.2M-B1			
D508	8-719-105-99	DIODE RD6.2M-B1			
		< IC >			
IC501	8-759-366-34	IC LC75824E			
		< JUMPER RESISTOR >			
JR512	1-216-295-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD501	1-803-440-11	DISPLAY PANEL, LIQUID CRYSTAL			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
LED501	8-719-987-45	LED CL-155Y/PG-CD			
LED502	8-719-987-45	LED CL-155Y/PG-CD			
LED503	8-719-987-45	LED CL-155Y/PG-CD			
LED504	8-719-987-45	LED CL-155Y/PG-CD			
LED505	8-719-987-45	LED CL-155Y/PG-CD			
		< SWITCH >			
LSW511	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (⏏)			
LSW512	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (AF/TA)			
LSW513	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (PTY/LIST)			
LSW514	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (10)			
LSW515	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (9)			
LSW516	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (8)			
LSW517	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (7)			
LSW518	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (6)			
LSW519	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (5)			
LSW520	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (4)			
LSW521	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (3)			
LSW522	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW523	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (SOURCE)			
LSW524	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW525	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (SOUND)			
LSW526	1-762-143-12	SWITCH, KEY BOARD (WITH LED) (MODE)			
LSW527	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (SHIFT)			
LSW528	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (1)			
LSW529	1-762-620-21	SWITCH, KEY BOARD (WITH LED) (2)			
		< PILOT LAMP >			
PL501	1-517-665-21	LAMP, PILOT			
PL502	1-517-665-21	LAMP, PILOT			
		< TRANSISTOR >			
Q502	8-729-903-46	TRANSISTOR 2SB1132-P			
Q503	8-729-904-66	TRANSISTOR DTD113EK			
Q504	8-729-904-66	TRANSISTOR DTD113EK			
Q505	8-729-620-06	TRANSISTOR 2SC3052-EF			
		< RESISTOR >			
R502	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R503	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R504	1-216-069-11	METAL CHIP	6.8K	5% 1/10W	
R505	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R511	1-216-045-00	METAL CHIP	680	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R512	1-216-043-00	METAL CHIP	560	5%	1/10W
R513	1-216-045-00	METAL CHIP	680	5%	1/10W
R514	1-216-049-11	RES,CHIP	1K	5%	1/10W
R515	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R516	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R517	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R518	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R519	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R520	1-216-069-11	METAL CHIP	6.8K	5%	1/10W
R521	1-216-043-00	METAL CHIP	560	5%	1/10W
R522	1-216-045-00	METAL CHIP	680	5%	1/10W
R523	1-216-045-00	METAL CHIP	680	5%	1/10W
R524	1-216-049-11	RES,CHIP	1K	5%	1/10W
R525	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R526	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R527	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R528	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R529	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R531	1-216-025-00	RES,CHIP	100	5%	1/10W
R532	1-216-029-00	METAL CHIP	150	5%	1/10W
R533	1-216-025-00	RES,CHIP	100	5%	1/10W
R534	1-216-029-00	METAL CHIP	150	5%	1/10W
R535	1-216-033-00	METAL CHIP	220	5%	1/10W
R536	1-216-037-00	METAL CHIP	330	5%	1/10W
R537	1-216-033-00	METAL CHIP	220	5%	1/10W
R538	1-216-037-00	METAL CHIP	330	5%	1/10W
R539	1-216-033-00	METAL CHIP	220	5%	1/10W
R540	1-216-037-00	METAL CHIP	330	5%	1/10W
R541	1-216-033-00	METAL CHIP	220	5%	1/10W
R542	1-216-037-00	METAL CHIP	330	5%	1/10W
R543	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R544	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R545	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R548	1-216-049-11	RES,CHIP	1K	5%	1/10W
R549	1-216-049-11	RES,CHIP	1K	5%	1/10W
R550	1-216-049-11	RES,CHIP	1K	5%	1/10W
R551	1-216-107-00	METAL CHIP	270K	5%	1/10W
R552	1-216-121-00	RES,CHIP	1M	5%	1/10W
R553	1-216-049-11	RES,CHIP	1K	5%	1/10W
R554	1-216-049-11	RES,CHIP	1K	5%	1/10W
R555	1-216-049-11	RES,CHIP	1K	5%	1/10W
R556	1-216-049-11	RES,CHIP	1K	5%	1/10W
R558	1-216-033-00	METAL CHIP	220	5%	1/10W
R561	1-216-025-00	RES,CHIP	100	5%	1/10W
R562	1-216-029-00	METAL CHIP	150	5%	1/10W
		< ROTARY ENCODER >			
RE501	1-475-014-11	ENCODER, ROTARY			
		< SWITCH >			
S501	1-762-937-11	SWITCH, ROTARY (D-BASS)			
S502	1-771-290-11	SWITCH, SLIDE (SEEK/AMS)			

****

Ref. No.	Part No.	Description	Remark
*	1-659-835-12	LIMIT SW BOARD	
		**********	
		< SWITCH >	
SW3	1-572-688-11	SWITCH, PUSH (1 KEY) (LIMIT)	

****

*	1-659-837-11	LOAD SW BOARD	
		**********	
		< SWITCH >	
SW4	1-572-288-21	SWITCH, PUSH (DOWN)	

****

*	A-3294-583-A	MAIN BOARD, COMPLETE (C4850R)	
*	A-3294-587-A	MAIN BOARD, COMPLETE (C4840R)	
		**********	
*	3-030-864-01	BRACKET (IC)	
*	3-030-884-01	HEAT SINK (REG)	
*	3-032-204-01	HEAT SINK (C4840R)	
*	3-032-204-11	HEAT SINK (C4850R)	
	7-685-793-09	SCREW +PTT 2.6X8 (S)	
	7-685-795-09	SCREW +PTT 2.6X12 (S)	
		< CAPACITOR >	

C101	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C106	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C120	1-126-295-11	ELECT	10uF	20%	35V
C121	1-126-295-11	ELECT	10uF	20%	35V
C122	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C123	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C126	1-164-346-11	CERAMIC CHIP	1uF		16V
C129	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C130	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-163-012-00	CERAMIC CHIP	0.0018uF	10%	50V
C203	1-164-346-11	CERAMIC CHIP	1uF		16V
C204	1-164-346-11	CERAMIC CHIP	1uF		16V
C205	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C220	1-126-295-11	ELECT	10uF	20%	35V
C221	1-126-295-11	ELECT	10uF	20%	35V
C222	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C223	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C226	1-164-346-11	CERAMIC CHIP	1uF		16V
C229	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C230	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C231	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C401	1-124-234-00	ELECT	22uF	20%	16V
C402	1-164-346-11	CERAMIC CHIP	1uF		16V
C403	1-124-257-00	ELECT	2.2uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C404	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C406	1-124-234-00	ELECT	22uF	20%	16V
C407	1-164-346-11	CERAMIC CHIP	1uF		16V
C408	1-164-346-11	CERAMIC CHIP	1uF		16V
C409	1-126-936-11	ELECT	3300uF	20%	16V
C410	1-124-242-00	ELECT	33uF	20%	25V
C411	1-124-252-00	ELECT	0.33uF	20%	50V
C415	1-124-589-11	ELECT	47uF	20%	16V
C416	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C417	1-124-234-00	ELECT	22uF	20%	16V
C499	1-164-346-11	CERAMIC CHIP	1uF		16V
C601	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C602	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C603	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C604	1-124-234-00	ELECT	22uF	20%	16V
C605	1-124-234-00	ELECT	22uF	20%	16V
C606	1-124-584-00	ELECT	100uF	20%	10V
C607	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C608	1-126-295-11	ELECT	10uF	20%	35V
C609	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C610	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C611	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C612	1-164-344-11	CERAMIC CHIP	0.068uF	10%	25V
C613	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C614	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C615	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C617	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C618	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C619	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C622	1-126-295-11	ELECT	10uF	20%	35V
C623	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C624	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C625	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C626	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C628	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C629	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C630	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C631	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C632	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C636	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C637	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C638	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C639	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C640	1-163-006-11	CERAMIC CHIP	560PF	10%	50V
C641	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C642	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C643	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C644	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C645	1-124-589-11	ELECT	47uF	20%	16V
C646	1-124-257-00	ELECT	2.2uF	20%	50V
C647	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C648	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C649	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V

Ref. No.	Part No.	Description			Remark
C651	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C653	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C654	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C657	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C658	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C660	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C661	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C662	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C663	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C664	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C665	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C666	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C667	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C671	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C692	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C693	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C694	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C702	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C703	1-126-295-11	ELECT	10uF	20%	35V
C704	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C705	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C707	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C708	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C709	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C710	1-126-295-11	ELECT	10uF	20%	35V
C718	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C719	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C780	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C781	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C797	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C799	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C801	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C802	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C806	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C810	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C811	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C812	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C813	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C814	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C815	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C816	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C817	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-124-465-00	ELECT	0.47uF	20%	50V
C904	1-128-057-11	ELECT	330uF	20%	6.3V
C910	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C911	1-126-160-11	ELECT	1uF	20%	50V
C912	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C913	1-126-160-11	ELECT	1uF	20%	50V
C914	1-125-701-11	DOUBLE LAYERS	0.047F		5.5V
C917	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C920	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C921	1-124-465-00	ELECT	0.47uF	20%	50V
C922	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

Ref. No.	Part No.	Description			Remark
C923	1-124-465-00	ELECT	0.47uF	20%	50V
C926	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C930	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C931	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C932	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C934	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C950	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
		< JACK >			
CNJ600	1-764-808-21	JACK (ANT)			
CNP802	1-566-822-41	JACK (REMOTE IN)			
		< CONNECTOR >			
CNP501	1-774-701-11	PIN, CONNECTOR 16P			
CNP700	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CNP800	1-764-422-11	PLUG, CONNECTOR 12P			
CNP801	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)			
		< DIODE >			
D402	8-719-109-71	DIODE RD3.9ES-B1			
D403	8-719-914-43	DIODE DAN202K			
D404	8-719-923-92	DIODE MTZJ-T-77-16B			
D405	8-719-923-92	DIODE MTZJ-T-77-16B			
D406	8-719-923-92	DIODE MTZJ-T-77-16B			
D407	8-719-923-92	DIODE MTZJ-T-77-16B			
D408	8-719-923-92	DIODE MTZJ-T-77-16B			
D409	8-719-923-92	DIODE MTZJ-T-77-16B			
D410	8-719-923-92	DIODE MTZJ-T-77-16B			
D411	8-719-923-92	DIODE MTZJ-T-77-16B			
D601	8-719-158-15	DIODE RD5.6S-B			
D603	8-719-987-69	DIODE DAN217			
D604	8-719-058-24	DIODE RB501V-40TE-17			
D701	8-719-914-44	DIODE DAP202K			
D702	8-719-991-33	DIODE 1SS133T-77			
D801	8-719-058-24	DIODE RB501V-40TE-17			
D807	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D808	8-719-914-43	DIODE DAN202K			
D809	8-719-056-93	DIODE UDZ-TE-17-18B			
D810	8-719-056-93	DIODE UDZ-TE-17-18B			
D823	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D824	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D856	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D857	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D858	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D859	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D860	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D861	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D862	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D863	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D864	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D865	8-719-056-83	DIODE UDZ-TE-17-6.8B			
D870	8-719-976-99	DIODE DTZ5.1B			
D881	8-719-914-43	DIODE DAN202K			

Ref. No.	Part No.	Description		Remark
D901	8-719-200-82	DIODE 11ES2		
D902	8-719-200-82	DIODE 11ES2		
D903	8-719-049-38	DIODE 1N5404TU		
D904	8-719-200-82	DIODE 11ES2		
D909	8-719-056-83	DIODE UDZ-TE-17-6.8B		
D910	8-719-978-69	DIODE DTZ-TT11-16B		
D912	8-719-923-60	DIODE MTZJ-T-77-9.1A		
D913	8-719-109-89	DIODE RD5.6ESB2		
D914	8-719-056-83	DIODE UDZ-TE-17-6.8B		
D915	8-719-923-60	DIODE MTZJ-T-77-9.1A		
D916	8-719-921-80	DIODE MTZJ-11B		
D918	8-719-914-44	DIODE DAP202K		
D919	8-719-914-43	DIODE DAN202K		
D920	8-719-978-69	DIODE DTZ-TT11-16B		
D924	8-719-200-82	DIODE 11ES2		
D940	8-719-978-69	DIODE DTZ-TT11-16B		
		< IC >		
IC200	8-759-490-74	IC TDA7384		
IC401	8-759-572-10	IC TDA7462D013TR		
IC601	8-759-572-11	IC TDA7427AD1TR		
IC602	8-759-492-59	IC SAA6588T-118		
IC603	8-759-909-71	IC BA4558F		
IC702	8-759-464-81	IC PCM1717E-ST2		
IC703	8-759-428-57	IC LC89170M-TLM		
IC801	8-759-572-14	IC MB90574APMT-G-199-BND		
IC803	8-759-449-89	IC BA8270F-E2		
IC901	8-759-572-12	IC BA4903		
IC902	8-759-363-81	IC XC61AN4002PR		
		< JUMPER RESISTOR >		
JR401	1-216-295-00	SHORT	0	(C4850R)
JR402	1-216-295-00	SHORT	0	(C4850R)
JR403	1-216-295-00	SHORT	0	(C4840R)
JR404	1-216-295-00	SHORT	0	(C4840R)
JR405	1-216-295-00	SHORT	0	
JR409	1-216-295-00	SHORT	0	
JR603	1-216-295-00	SHORT	0	
JR609	1-216-295-00	SHORT	0	
JR611	1-216-295-00	SHORT	0	
JR613	1-216-295-00	SHORT	0	
JR617	1-216-295-00	SHORT	0	
JR618	1-216-295-00	SHORT	0	
JR620	1-216-295-00	SHORT	0	
JR621	1-216-295-00	SHORT	0	
JR622	1-216-295-00	SHORT	0	
JR623	1-216-295-00	SHORT	0	
JR624	1-216-295-00	SHORT	0	
JR702	1-216-295-00	SHORT	0	
JR710	1-216-295-00	SHORT	0	
JR720	1-216-295-00	SHORT	0	
JR722	1-216-295-00	SHORT	0	

MAIN

Ref. No.	Part No.	Description		Remark
JR765	1-216-295-00	SHORT	0	
JR855	1-216-295-00	SHORT	0	
JR857	1-216-295-00	SHORT	0	
		< COIL >		
L601	1-410-513-11	INDUCTOR	22uH	
L603	1-414-142-11	INDUCTOR	1uH	
L901	1-416-539-21	INDUCTOR	370uH	
		< JACK >		
PJ400	1-774-699-12	JACK, PIN 4P (BUS AUDIO IN,LINE OUT REAR)		(C4840R)
PJ400	1-774-700-21	JACK, PIN 6P (BUS AUDIO IN,LINE OUT FRONT/REAR)		(C4850R)
		< TRANSISTOR >		
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q110	8-729-920-31	TRANSISTOR	DTC343TK	
Q111	8-729-920-31	TRANSISTOR	DTC343TK	
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04	
Q210	8-729-920-31	TRANSISTOR	DTC343TK	
Q211	8-729-920-31	TRANSISTOR	DTC343TK	
Q401	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q402	8-729-901-00	TRANSISTOR	DTC124EK	
Q603	8-729-030-51	TRANSISTOR	2SA1515S-R-TP	
Q604	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q605	8-729-901-00	TRANSISTOR	DTC124EK	
Q609	8-729-901-00	TRANSISTOR	DTC124EK	
Q610	8-729-216-22	TRANSISTOR	2SA1162-G	
Q612	8-729-216-22	TRANSISTOR	2SA1162-G	
Q613	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q614	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q615	8-729-901-00	TRANSISTOR	DTC124EK	
Q618	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q804	8-729-901-00	TRANSISTOR	DTC124EK	
Q901	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q902	8-729-901-00	TRANSISTOR	DTC124EK	
Q903	8-729-019-00	TRANSISTOR	2SD2394-G	
Q904	8-729-019-00	TRANSISTOR	2SD2394-G	
Q905	8-729-900-53	TRANSISTOR	DTC114EK	
Q906	8-729-901-00	TRANSISTOR	DTC124EK	
Q907	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q908	8-729-901-00	TRANSISTOR	DTC124EK	
Q909	8-729-015-11	TRANSISTOR	2SD1802FAST-TL	
Q910	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q911	8-729-901-00	TRANSISTOR	DTC124EK	
Q912	8-729-019-00	TRANSISTOR	2SD2394-G	
Q913	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q914	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q915	8-729-027-31	TRANSISTOR	DTA124EKA-T146	
Q916	8-729-620-06	TRANSISTOR	2SC3052-EF	
Q919	8-729-901-00	TRANSISTOR	DTC124EK	
Q924	8-729-903-46	TRANSISTOR	2SB1132-P	

Ref. No.	Part No.	Description			Remark
Q925	8-729-901-00	TRANSISTOR	DTC124EK		
Q940	8-729-620-06	TRANSISTOR	2SC3052-EF		
		< RESISTOR >			
R101	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W
R111	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R112	1-216-049-11	RES,CHIP	1K	5%	1/10W
R113	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R114	1-216-049-11	RES,CHIP	1K	5%	1/10W
R115	1-216-075-00	METAL CHIP	12K	5%	1/10W
R116	1-216-075-00	METAL CHIP	12K	5%	1/10W
R117	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R118	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R123	1-216-089-00	RES,CHIP	47K	5%	1/10W (C4850R)
R125	1-216-089-00	RES,CHIP	47K	5%	1/10W
R126	1-216-095-00	RES,CHIP	82K	5%	1/10W
R127	1-216-064-00	METAL CHIP	4.3K	5%	1/10W
R128	1-216-082-00	RES,CHIP	24K	5%	1/10W
R129	1-216-082-00	RES,CHIP	24K	5%	1/10W
R130	1-216-082-00	RES,CHIP	24K	5%	1/10W (C4840R)
R130	1-216-089-00	RES,CHIP	47K	5%	1/10W (C4850R)
R201	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R211	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R212	1-216-049-11	RES,CHIP	1K	5%	1/10W
R213	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R214	1-216-049-11	RES,CHIP	1K	5%	1/10W
R215	1-216-075-00	METAL CHIP	12K	5%	1/10W
R216	1-216-075-00	METAL CHIP	12K	5%	1/10W
R217	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R218	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R223	1-216-089-00	RES,CHIP	47K	5%	1/10W (C4850R)
R226	1-216-095-00	RES,CHIP	82K	5%	1/10W
R227	1-216-064-00	METAL CHIP	4.3K	5%	1/10W
R228	1-216-082-00	RES,CHIP	24K	5%	1/10W
R229	1-216-082-00	RES,CHIP	24K	5%	1/10W
R230	1-216-082-00	RES,CHIP	24K	5%	1/10W (C4840R)
R230	1-216-089-00	RES,CHIP	47K	5%	1/10W (C4850R)
R401	1-216-049-11	RES,CHIP	1K	5%	1/10W
R402	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R403	1-216-113-00	METAL CHIP	470K	5%	1/10W
R404	1-216-295-00	SHORT	0		
R405	1-216-295-00	SHORT	0		
R408	1-216-073-00	METAL CHIP	10K	5%	1/10W
R602	1-216-025-00	RES,CHIP	100	5%	1/10W
R603	1-216-083-00	METAL CHIP	27K	5%	1/10W
R605	1-216-067-00	METAL CHIP	5.6K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R606	1-216-073-00	METAL CHIP	10K	5%	1/10W
R607	1-216-097-00	RES,CHIP	100K	5%	1/10W
R608	1-216-025-00	RES,CHIP	100	5%	1/10W
R609	1-216-081-00	METAL CHIP	22K	5%	1/10W
R611	1-216-025-00	RES,CHIP	100	5%	1/10W
R612	1-216-073-00	METAL CHIP	10K	5%	1/10W
R613	1-216-073-00	METAL CHIP	10K	5%	1/10W
R614	1-216-295-00	SHORT	0		
R615	1-216-295-00	SHORT	0		
R616	1-216-081-00	METAL CHIP	22K	5%	1/10W
R617	1-216-025-00	RES,CHIP	100	5%	1/10W
R619	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R621	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R623	1-216-049-11	RES,CHIP	1K	5%	1/10W
R624	1-216-049-11	RES,CHIP	1K	5%	1/10W
R625	1-216-037-00	METAL CHIP	330	5%	1/10W
R626	1-216-049-11	RES,CHIP	1K	5%	1/10W
R627	1-216-113-00	METAL CHIP	470K	5%	1/10W
R628	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R630	1-216-097-00	RES,CHIP	100K	5%	1/10W
R631	1-216-097-00	RES,CHIP	100K	5%	1/10W
R632	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R633	1-216-073-00	METAL CHIP	10K	5%	1/10W
R634	1-216-073-00	METAL CHIP	10K	5%	1/10W
R635	1-216-009-00	RES,CHIP	22	5%	1/10W
R636	1-216-121-00	RES,CHIP	1M	5%	1/10W
R637	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R638	1-216-097-00	RES,CHIP	100K	5%	1/10W
R639	1-216-077-00	METAL CHIP	15K	5%	1/10W
R640	1-216-113-00	METAL CHIP	470K	5%	1/10W
R641	1-216-097-00	RES,CHIP	100K	5%	1/10W
R642	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R643	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R644	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R645	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R646	1-216-073-00	METAL CHIP	10K	5%	1/10W
R647	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R648	1-216-295-00	SHORT	0		
R649	1-216-097-00	RES,CHIP	100K	5%	1/10W
R694	1-216-017-00	RES,CHIP	47	5%	1/10W
R695	1-216-097-00	RES,CHIP	100K	5%	1/10W
R699	1-216-075-00	METAL CHIP	12K	5%	1/10W
R701	1-216-025-00	RES,CHIP	100	5%	1/10W
R702	1-216-025-00	RES,CHIP	100	5%	1/10W
R703	1-216-025-00	RES,CHIP	100	5%	1/10W
R705	1-216-033-00	METAL CHIP	220	5%	1/10W
R708	1-216-037-00	METAL CHIP	330	5%	1/10W
R710	1-216-027-00	METAL CHIP	120	5%	1/10W
R711	1-216-121-00	RES,CHIP	1M	5%	1/10W
R712	1-216-113-00	METAL CHIP	470K	5%	1/10W
R723	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R802	1-216-049-11	RES,CHIP	1K	5%	1/10W
R805	1-216-097-00	RES,CHIP	100K	5%	1/10W
R806	1-216-049-11	RES,CHIP	1K	5%	1/10W
R807	1-216-049-11	RES,CHIP	1K	5%	1/10W
R808	1-216-049-11	RES,CHIP	1K	5%	1/10W
R809	1-216-025-00	RES,CHIP	100	5%	1/10W
R810	1-216-025-00	RES,CHIP	100	5%	1/10W
R812	1-216-097-00	RES,CHIP	100K	5%	1/10W
R813	1-216-049-11	RES,CHIP	1K	5%	1/10W
R814	1-216-049-11	RES,CHIP	1K	5%	1/10W
R816	1-216-025-00	RES,CHIP	100	5%	1/10W
R820	1-216-097-00	RES,CHIP	100K	5%	1/10W
R822	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R823	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R825	1-216-097-00	RES,CHIP	100K	5%	1/10W
R826	1-216-097-00	RES,CHIP	100K	5%	1/10W
R827	1-216-105-00	RES,CHIP	220K	5%	1/10W
R828	1-216-097-00	RES,CHIP	100K	5%	1/10W
R829	1-216-073-00	METAL CHIP	10K	5%	1/10W
R830	1-216-073-00	METAL CHIP	10K	5%	1/10W
R831	1-216-073-00	METAL CHIP	10K	5%	1/10W
R832	1-216-097-00	RES,CHIP	100K	5%	1/10W
R833	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R834	1-216-097-00	RES,CHIP	100K	5%	1/10W
R839	1-216-073-00	METAL CHIP	10K	5%	1/10W
R840	1-216-089-00	RES,CHIP	47K	5%	1/10W
R841	1-216-025-00	RES,CHIP	100	5%	1/10W
R842	1-216-097-00	RES,CHIP	100K	5%	1/10W
R843	1-216-073-00	METAL CHIP	10K	5%	1/10W
R844	1-216-025-00	RES,CHIP	100	5%	1/10W
R845	1-216-025-00	RES,CHIP	100	5%	1/10W
R846	1-216-097-00	RES,CHIP	100K	5%	1/10W
R847	1-216-097-00	RES,CHIP	100K	5%	1/10W
R848	1-216-097-00	RES,CHIP	100K	5%	1/10W
R851	1-216-097-00	RES,CHIP	100K	5%	1/10W
R856	1-216-025-00	RES,CHIP	100	5%	1/10W
R858	1-216-295-00	SHORT	0		
R859	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R860	1-216-097-00	RES,CHIP	100K	5%	1/10W
R861	1-216-105-00	RES,CHIP	220K	5%	1/10W
R862	1-216-105-00	RES,CHIP	220K	5%	1/10W
R863	1-216-049-11	RES,CHIP	1K	5%	1/10W
R868	1-216-049-11	RES,CHIP	1K	5%	1/10W
R869	1-216-097-00	RES,CHIP	100K	5%	1/10W
R870	1-216-025-00	RES,CHIP	100	5%	1/10W
R871	1-216-025-00	RES,CHIP	100	5%	1/10W
R899	1-216-097-00	RES,CHIP	100K	5%	1/10W
R902	1-216-049-11	RES,CHIP	1K	5%	1/10W
R903	1-216-041-00	METAL CHIP	470	5%	1/10W
R904	1-216-073-00	METAL CHIP	10K	5%	1/10W
R906	1-216-097-00	RES,CHIP	100K	5%	1/10W
R907	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R908	1-216-033-00	METAL CHIP	220	5%	1/10W
R909	1-216-041-00	METAL CHIP	470	5%	1/10W
R910	1-216-041-00	METAL CHIP	470	5%	1/10W

MAIN **SERVO**

Ref. No.	Part No.	Description			Remark
R911	1-216-041-00	METAL CHIP	470	5%	1/10W
R915	1-216-079-00	METAL CHIP	18K	5%	1/10W
R917	1-216-085-00	METAL CHIP	33K	5%	1/10W
R918	1-216-073-00	METAL CHIP	10K	5%	1/10W
R919	1-216-073-00	METAL CHIP	10K	5%	1/10W
R920	1-216-097-00	RES,CHIP	100K	5%	1/10W
R925	1-216-097-00	RES,CHIP	100K	5%	1/10W
R928	1-216-041-00	METAL CHIP	470	5%	1/10W
R933	1-216-025-00	RES,CHIP	100	5%	1/10W
R936	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R937	1-216-097-00	RES,CHIP	100K	5%	1/10W
R940	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R999	1-216-097-00	RES,CHIP	100K	5%	1/10W
		< VARIABLE RESISTOR >			
RV801	1-241-788-11	RES, ADJ, CARBON 100K			
		< SWITCH >			
S900	1-692-431-21	SWITCH, TACTILE (RESET)			
		< THERMISTOR (POSITIVE) >			
TH801	1-803-448-21	THERMISTOR, POSITIVE			
		< TUNER >			
TU601	1-693-440-11	TUNER UNIT			
		< VIBRATOR >			
X601	1-781-258-11	VIBRATOR, CRYSTAL (10.25MHz)			
X602	1-579-242-41	VIBRATOR, CRYSTAL (4.3MHz)			
X700	1-579-345-11	VIBRATOR, CERAMIC (16.9344MHz)			
X800	1-767-833-21	VIBRATOR, CERAMIC (3.68MHz)			
X801	1-567-098-41	VIBRATOR, CRYSTAL (32kHz)			

****

*	A-3309-694-A	SERVO BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C15	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V

Ref. No.	Part No.	Description			Remark
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C24	1-163-259-00	CERAMIC CHIP	220PF	5%	50V
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
		< CONNECTOR >			
CN1	1-764-616-12	HOUSING, CONNECTOR (PC BOARD) 30P			
CN2	1-565-728-51	CONNECTOR, FPC 17P			
CN3	1-770-347-21	CONNECTOR, FPC 6P			
		< IC >			
IC1	8-752-372-94	IC CXD2507AQ			
IC2	8-752-074-34	IC CXA1782BQ			
IC3	8-759-354-16	IC BA6796FP-T1			
		< JUMPER RESISTOR >			
JR01	1-216-296-00	SHORT	0		
JR03	1-216-296-00	SHORT	0		
JR04	1-216-296-00	SHORT	0		
JR05	1-216-296-00	SHORT	0		
JR06	1-216-296-00	SHORT	0		
JR07	1-216-296-00	SHORT	0		
JR08	1-216-296-00	SHORT	0		
JR09	1-216-296-00	SHORT	0		
JR10	1-216-296-00	SHORT	0		
JR11	1-216-296-00	SHORT	0		
JR12	1-216-296-00	SHORT	0		
JR13	1-216-296-00	SHORT	0		
JR14	1-216-296-00	SHORT	0		
JR15	1-216-296-00	SHORT	0		
JR16	1-216-296-00	SHORT	0		
JR17	1-216-296-00	SHORT	0		
JR18	1-216-296-00	SHORT	0		

Ref. No.	Part No.	Description		Remark
JR19	1-216-296-00	SHORT	0	
JR20	1-216-296-00	SHORT	0	
JR21	1-216-296-00	SHORT	0	
JR22	1-216-296-00	SHORT	0	
JR23	1-216-296-00	SHORT	0	
JR24	1-216-296-00	SHORT	0	
JR25	1-216-296-00	SHORT	0	
JR26	1-216-296-00	SHORT	0	
JR27	1-216-296-00	SHORT	0	
JR28	1-216-296-00	SHORT	0	
JR29	1-216-296-00	SHORT	0	
JR30	1-216-296-00	SHORT	0	
JR31	1-216-296-00	SHORT	0	
JR32	1-216-296-00	SHORT	0	
JR33	1-216-296-00	SHORT	0	
JR34	1-216-296-00	SHORT	0	
JR35	1-216-296-00	SHORT	0	
JR36	1-216-296-00	SHORT	0	
JR37	1-216-296-00	SHORT	0	
JR38	1-216-296-00	SHORT	0	
JR40	1-216-296-00	SHORT	0	
JR41	1-216-296-00	SHORT	0	
JR42	1-216-296-00	SHORT	0	
JR43	1-216-296-00	SHORT	0	
JR44	1-216-296-00	SHORT	0	
JR45	1-216-296-00	SHORT	0	
JR46	1-216-296-00	SHORT	0	
JR47	1-216-296-00	SHORT	0	
JR48	1-216-296-00	SHORT	0	
JR49	1-216-296-00	SHORT	0	
JR50	1-216-296-00	SHORT	0	
JR51	1-216-296-00	SHORT	0	
JR52	1-216-296-00	SHORT	0	
JR53	1-216-296-00	SHORT	0	
JR54	1-216-296-00	SHORT	0	
JR55	1-216-296-00	SHORT	0	
JR56	1-216-296-00	SHORT	0	
JR57	1-216-296-00	SHORT	0	
JR58	1-216-296-00	SHORT	0	
JR59	1-216-296-00	SHORT	0	
JR60	1-216-296-00	SHORT	0	
JR61	1-216-296-00	SHORT	0	
JR62	1-216-296-00	SHORT	0	
JR63	1-216-296-00	SHORT	0	
JR64	1-216-296-00	SHORT	0	
JR65	1-216-296-00	SHORT	0	
JR66	1-216-296-00	SHORT	0	
JR67	1-216-296-00	SHORT	0	
JR68	1-216-296-00	SHORT	0	
JR69	1-216-296-00	SHORT	0	
JR70	1-216-296-00	SHORT	0	
JR71	1-216-296-00	SHORT	0	

Ref. No.	Part No.	Description			Remark
		< COIL >			
L1	1-412-058-11	INDUCTOR CHIP	10uH		
L2	1-412-058-11	INDUCTOR CHIP	10uH		
L3	1-412-058-11	INDUCTOR CHIP	10uH		
		< TRANSISTOR >			
Q1	8-729-033-65	FET	2SJ204-T1B		
Q2	8-729-904-86	TRANSISTOR	2SB1197K-Q		
Q3	8-729-025-41	TRANSISTOR	UPA602T-T2		
Q4	8-729-025-41	TRANSISTOR	UPA602T-T2		
Q5	1-801-806-11	TRANSISTOR	DTC144EKA-T146		
Q6	8-729-025-41	TRANSISTOR	UPA602T-T2		
		< RESISTOR >			
R1	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2	1-216-097-00	RES,CHIP	100K	5%	1/10W
R3	1-216-121-00	RES,CHIP	1M	5%	1/10W
R4	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W
R7	1-216-009-00	RES,CHIP	22	5%	1/10W
R8	1-216-119-00	METAL CHIP	820K	5%	1/10W
R9	1-216-119-00	METAL CHIP	820K	5%	1/10W
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W
R11	1-216-073-00	METAL CHIP	10K	5%	1/10W
R14	1-216-085-00	METAL CHIP	33K	5%	1/10W
R15	1-216-085-00	METAL CHIP	33K	5%	1/10W
R16	1-216-077-00	METAL CHIP	15K	5%	1/10W
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W
R19	1-216-079-00	METAL CHIP	18K	5%	1/10W
R20	1-216-105-00	RES,CHIP	220K	5%	1/10W
R21	1-216-105-00	RES,CHIP	220K	5%	1/10W
R22	1-216-085-00	METAL CHIP	33K	5%	1/10W
R23	1-216-121-00	RES,CHIP	1M	5%	1/10W
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W
R27	1-216-295-00	SHORT	0		
R28	1-216-101-00	METAL CHIP	150K	5%	1/10W
R29	1-216-097-00	RES,CHIP	100K	5%	1/10W
R30	1-216-097-00	RES,CHIP	100K	5%	1/10W
R31	1-216-081-00	METAL CHIP	22K	5%	1/10W
R32	1-216-109-00	METAL CHIP	330K	5%	1/10W
R33	1-216-105-00	RES,CHIP	220K	5%	1/10W
R34	1-216-009-00	RES,CHIP	22	5%	1/10W
R35	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R36	1-216-097-00	RES,CHIP	100K	5%	1/10W
R37	1-216-117-00	METAL CHIP	680K	5%	1/10W
R38	1-216-109-00	METAL CHIP	330K	5%	1/10W
R39	1-216-101-00	METAL CHIP	150K	5%	1/10W
R40	1-216-114-00	RES,CHIP	510K	5%	1/10W
R41	1-216-093-00	RES,CHIP	68K	5%	1/10W
R42	1-216-107-00	METAL CHIP	270K	5%	1/10W
R43	1-216-097-00	RES,CHIP	100K	5%	1/10W

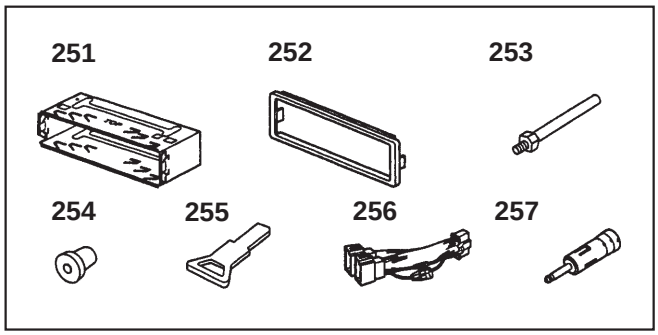
SERVO **SUB**

Ref. No.	Part No.	Description			Remark
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W
R46	1-216-097-00	RES,CHIP	100K	5%	1/10W
R47	1-216-105-00	RES,CHIP	220K	5%	1/10W
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W
R49	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R50	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R51	1-216-295-00	SHORT	0		
R56	1-216-121-00	RES,CHIP	1M	5%	1/10W
R57	1-216-121-00	RES,CHIP	1M	5%	1/10W
R58	1-216-121-00	RES,CHIP	1M	5%	1/10W
R59	1-216-089-00	RES,CHIP	47K	5%	1/10W
R60	1-216-089-00	RES,CHIP	47K	5%	1/10W
R61	1-208-291-11	RES,CHIP	4.7M	5%	1/10W
R62	1-208-291-11	RES,CHIP	4.7M	5%	1/10W
		< VARIABLE RESISTOR >			
RV1	1-238-091-11	RES, ADJ, CERMET	22K		
RV4	1-238-091-11	RES, ADJ, CERMET	22K		
**********					
*	1-659-834-11	SUB BOARD			
		**********			
		< CONNECTOR >			
CN1	1-770-347-21	CONNECTOR, FPC 6P			
**********					
		MISCELLANEOUS			
		**********			
5	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER)			(C4840R)
5	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)			(C4850R)
207	1-659-880-11	MOTOR FLEXIBLE BOARD			
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP			
212	1-659-881-11	PICK-UP FLEXIBLE BOARD			
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A			
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)			
M902	A-3291-674-A	MOTOR ASSY, SLED (SLED)			
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING (LOADING)			
**********					

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	3-865-874-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE,SWEDISH)(AEP,UK)	
	3-865-874-21	MANUAL, INSTRUCTION (FRENCH,GERMAN, DUTCH,ITALIAN)(AEP)	
	3-865-874-31	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-865-877-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (C4840R:AEP,UK)	
	3-865-877-21	MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN) (C4840R:AEP,G)	
	3-866-298-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, SPANISH,PORTUGUESE,SWEDISH) (C4850R:AEP,UK)	
	3-866-298-21	MANUAL, INSTRUCTION, INSTALL (FRENCH, GERMAN,DUTCH,ITALIAN) (C4850R:AEP,G)	
	X-3374-927-1	CASE ASSY	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-793-09	SCREW +PTT 2.6X8 (S)	
#2	7-685-792-09	SCREW +PTT 2.6X6 (S)	
#3	7-685-795-09	SCREW +PTT 2.6X12 (S)	
#4	7-621-772-10	SCREW +B 2X4	
#5	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT	
#6	7-627-850-28	SCREW, PRECISION +P 1.4X3	
#7	7-628-253-00	SCREW +PS 2X4	
#8	7-627-553-17	SCREW, PRECISION +P 2X2 TYPE3	
#9	7-627-553-37	SCREW, PRECISION +P 2X3 TYPE3	
#10	7-627-000-00	SCREW, PRECISION +P 1.7X2.2 TYPE3	
**********			

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
251	3-011-653-01	FRAME	
252	X-3374-928-1	COLLAR ASSY	
253	3-034-262-01	SCREW, FITTING	
* 254	3-358-697-01	BUSHING	
255	3-909-731-01	KEY	
256	1-776-527-51	CORD (WITH CONNECTOR) (ISO) (POWER)	(C4840R)
256	1-776-527-61	CORD (WITH CONNECTOR) (ISO) (POWER)	(C4850R)
257	1-465-459-11	ADAPTOR, ANTENNA	



Sony Corporation
Personal & Mobile Communication Company

9-926-458-11

99C047542-1
Printed in Hungary ©1999. 3
Published by Quality Assurance Dept.